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The Journal of the

International College of Surgeons

FOURTH INTERNATIONAL ASSEMBLY

In Conjunction with Eighth National Assembly of United States Chapter

OF

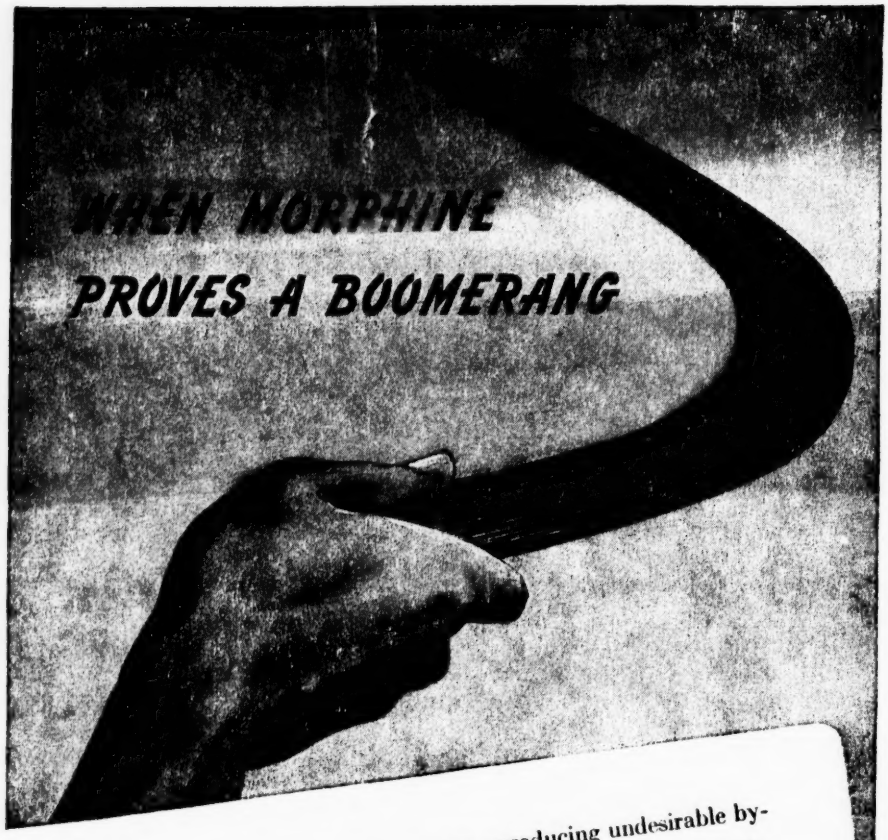
INTERNATIONAL COLLEGE OF SURGEONS

WAR SURGERY AND REHABILITATION PROGRAM

Waldorf-Astoria Hotel, New York, N. Y.
June 14 to 16 (incl.), 1943

Vol. VI *January-February, 1943* No. 1

Official Journal of The International College of Surgeons Published Bimonthly



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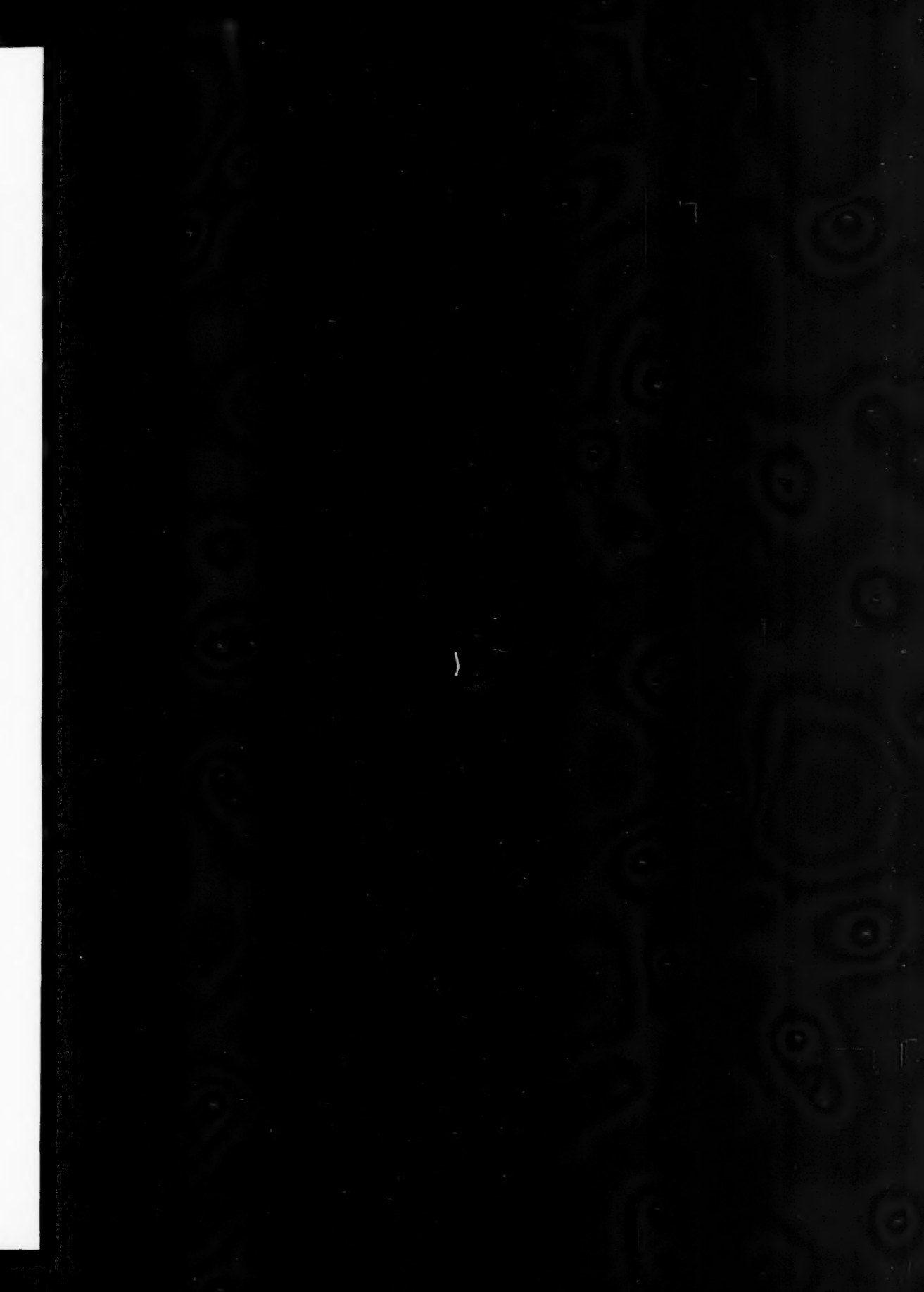

The Journal of the
International College of Surgeons

Volume VI JANUARY-FEBRUARY, 1943 *Number 1*

The Diagnosis and Treatment of Tumors of the Upper Urinary Tract*

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IT IS comparatively easy to recognize tumor in the upper urinary tract where there is a palpable mass in the region of the kidney and where typical defects in the pyelogram are found. However, there are many pitfalls in the diagnosis. It is necessary to differentiate extra-renal tumors from those of the pelvis, upper ureter, and the parenchyma. Adrenal tumors, tumors of the head of the pancreas, adrenal rest tumors originating in the renal capsule, retroperitoneal sarcomata, hydrops of the gall bladder, and even abdominal aneurysms have been mistaken for growths limited to the upper urinary tract. Every effort should be made to rule out these conditions whenever renal growths are suspected.

In the kidney itself there are many pathologic conditions that may be erroneously interpreted as pelvic or renal neoplasms. These mistakes in diagnosis are usually based on the interpretation of urograms. I have a fairly large series of cases where the post-operative findings did not agree with the pre-operative diagnosis. A brief review of some of these errors in diagnosis should be helpful. In all of the cases cited the only symptom has been painless hematuria.

In certain cases of unilateral renal hemorrhage one can easily err in the diagnosis. Often it is better, after thorough study, to nephrectomize a hemorrhagic kidney even though the pyelogram is normal or impossible of correct interpretation, than to permit an early cancer to develop into a late one.

Two cases illustrative of this point are interesting. Both patients had excessive unilateral bleeding but had virtually nor-

*Read before the Seventh National Assembly of the International College of Surgeons, Denver, Colorado, July 15-18, 1942.

mal pyelograms. In one case all that could be found was an "acute hemorrhagic papillitis." In the second case, the bleeding kidney looked so normal that I was ashamed to remove it. On gross examination no lesions of any kind could be demonstrated. The papilla of the superior calyx seemed to be a bit more congested than its fellow. Microscopic examination revealed a definite early cancer.

Bugbee recently advocated opening the kidney in certain cases of painless unilateral hematuria before removing it. In a few cases this might be advantageous and enable us to save all or part of a valuable organ. It would have been of no value in the case of cancer cited above because, grossly, the pelvis and kidney looked normal. I would hesitate to cut into a kidney suspected of harboring a neoplasm through fear of spreading the disease, even though such a fear might be only theoretical.

Two cases of non-opaque calculi have been erroneously diagnosed as tumors of the renal pelvis. One, a simple stone; the other, multiple calculi in the pelvis and lower calyx.

A tuberculous abscess in the lower pole of a kidney, with a large blood clot in the pelvis, was responsible for a diagnosis of a pelvic tumor. There were no symptoms or other clinical or laboratory evidence of tuberculosis. The diagnosis of tumor was also made in two other prominent clinics.

A woman, aged 40, presented herself with a history of painless hematuria. The pyelogram showed a peculiar irregularity of the lower calyx. Tumor was diagnosed. Operation revealed an infarct of the kidney.

A number of years ago, I published a paper on an adenocarcinoma of the head of the pancreas, mistakenly diagnosed as tumor of the lower pole of a movable kidney. Operation and autopsy revealed the true diagnosis. These are errors in diagnosis that have all been personal experiences. Careful study of the pyelograms, when compared with typical deformities caused by actual tumors of the pelvis and parenchyma, will possibly prevent these pre-operative errors in the future. Fortunately, all of these patients, except one, had to be nephrectomized, and while they were all treated as tumor cases, the only definite criticism is that they were treated by X-ray and radium pre-operatively. This delayed the operative procedure, increased the expense to the patient, and cost one good kidney. The single non-opaque calculus could have been removed and the organ saved if it had not been for the preliminary X-ray and radium therapy. Typical pyelograms are never difficult of interpretation.

Other conditions that must be differentiated are single or multiple cysts of the kidney and benign growths. The latter are relatively rare.

There are many methods of treating tumors of the upper urinary tract. Some prefer pre- and post-operative X-ray therapy with surgery, while others prefer different combinations of these procedures. My experience in the treatment of tumors of the upper urinary tract, in spite of surgery plus either pre- or post-operative X-ray therapy or any combination of these, has been very unsatisfactory. Many of these patients have required complete nephro-ureterectomy with partial cystectomy, otherwise recurrences may develop in the ureteral stump or in the bladder following nephrectomy.

Several years ago I did a nephrectomy for a papillary carcinoma of the renal pelvis, and five years later there was a recurrence of the tumor in the ureteral stump and in the bladder. At the time of the original operation it was considered suicidal, because of the patient's

condition, to do a complete nephro-ureterectomy with partial cystectomy.

I had already seen a number of similar cases. Secondary ureterectomy with partial cystectomy had always failed because of the extension of the tumor mass to the retroperitoneal tissues, and, in several cases, through the peritoneum itself. The question of treating this involved ureteral stump by X-ray was raised. This treatment had been tried in several cases without satisfactory results. Radium inserted into the ureter was considered, but how to insert it properly was the question. In consultation with M. Cervi, a Physicist, the first catheter loaded with radon for the treatment of this recurrent growth in the ureteral stump was designed. The results were very spectacular. As a result of this experience, it seemed rational to treat the ureter pre-operatively in this manner prior to surgery and thereby obviate the necessity for the very major operative procedure of nephro-ureterectomy with partial cystectomy.

The first catheters used were solid after they had been filled with the radon seeds. The first two or three patients suffered intensely from an acute and painful hydronephrosis for the period of time that the catheter was left in the ureter. Experiments were then made with a two-way catheter. One side was filled with the radon seeds; the other gave adequate drainage from the renal pelvis during the period of radiation.

Of course, it must be remembered that a catheter cannot be passed in all of these cases and then other methods must be used. Since the development of the radon catheter, treatment of tumors of the upper urinary tract has been standardized in our clinic, and while the series of cases treated in this manner is still very small, the results are unquestionably much better than those obtained by any previous combination of therapy.

The radon catheter destroys the lower three-fifths of the ureter and allows the surgeon to do a simple nephrectomy safely instead of a complete nephro-ureterectomy with partial cystectomy. This treatment is particulary indicated in treatment of tumors of the renal pelvis, and in these cases we may also plant a few radon seeds around the affected ureter. In all tumors of the upper urinary tract, including those of the upper ureter, pelvis and parenchyma, X-ray therapy pre-operatively is the routine. This devitalizes tumor tissue in the kidney, blocks the lymphatics and blood vessels, making metastasis less likely as a result of later surgical handling. Very large tumors of the kidney, which are at first considered inoperable, may and often do shrink so that they are easily handled at operation. X-ray therapy has not made surgical removal more difficult, and nephrectomy has been done as long as a year after the diagnosis was first made where the X-ray therapy was prolonged and extensive.

It has been my experience that the Wilm's tumor shrinks very rapidly under X-ray therapy and that operation is made simpler and easier if these tumors get pre-operative radiation. One case that demonstrates this very distinctly was a fourteen-month-old baby with a huge Wilm's tumor of the left kidney. Very minimal doses of X-ray caused the tumor to shrink so rapidly that at operation the kidney, with its tumor, was removed with relative ease. This patient is alive over a year without recurrence and will be the first case in my experience of Wilm's tumors that has been cured, if this case can be considered cured. My limited experience, of course, is not sufficient to take issue with Ladd, who believes that these cases should be operated on and then treated with X-ray.

It must be emphasized, however, that even though treatment of a disease is standardized there are exceptions to every rule. Ordinarily, we do not use post-operative X-ray therapy unless there seems to be a definite indication for it. There are times when the routine treatment of an individual case must be abandoned to more intelligently meet the problem at hand.

The Radium Emanation Corporation takes a double channel catheter with two lumens blended into one. At the distal end there are two drainage eyelets. Radon seeds separated by short lengths of a neutral material are spaced evenly along the portion of the catheter to be activated. These spaces are completely enclosed in platinum. The entire dosage is evenly distributed in the necessary number of seeds, depending upon the length of ureter to be irradiated. A seed is placed in the catheter and pushed down into place. A spacer follows, another seed is put in, a spacer follows, etc., until the entire described length of the catheter is loaded. The channel is then plugged at both ends to prevent shifting of the seeds. A roentgenogram is then taken of the activated portion of the catheter to see that radiation distribution is where it is supposed to be. This leaves one lumen free to drain the urine from the renal pelvis on the side to be radiated and prevents any overdistention of the pelvis. The catheter is sufficiently flexible to pass the curves of the cystoscope and to follow the normal course of the ureter. After insertion, a roentgenogram is taken to be sure that the catheter is properly placed and that the radiation is going to be distributed to the proper portion of the ureter. The catheter is left in for 72 hours. The dosage is approximately 400 mc. hours per inch of active length. The primary filter is 0.3 mm. of platinum.

After the catheter has been placed and has been properly checked, the patient is given pre-operative radiation. Three ports are used. The anterior port extends from the midline out over the kidney area from just below the nipple to just below the crest of the ilium. The posterior port extends from about the tenth rib to below the crest of the ilium, from the middle of the spine out to the edge of the abdomen. The middle port is the port between these two and is directed laterally over the kidney. Treatments are given daily to two ports and if a third port is deemed advisable, only two ports are treated daily. The dosage is 200 r, per port per day, each area receiving a total of from 1400 to 1600 r. The operation is performed within two weeks of the completion of the radiation.

Small tumors of the kidney can be approached safely from the back by any of the regular kidney incisions. Whenever nephro-ureterectomy with partial cystectomy is contemplated, two incisions are necessary: One in the lower abdominal quadrant for the partial cystectomy and separation of the lower ureter, and the other in the loin for the removal of the kidney itself. Many surgeons prefer to approach large tumors of the kidney transperitoneally. All of these various operative approaches have their very evident disadvantages.

I would like to emphasize an operative approach and technic which I believe to be superior to any of these, although it must always be remembered that the operative procedure must be selected to fit each individual patient.

If the twelfth rib is resected (the eleventh has been resected several times) the exposure of the kidney is facilitated. The incision is made down on the middle of this rib, the muscles are dissected from the superior and inferior border of the rib, and the rib is then resected. The incision is continued anteriorly for a

short distance. The transversalis fascia is opened, the pleura carefully retracted, and the peritoneum is pushed forward and out of the way. Gerota's fascia is nicked and the opening is enlarged by tearing it with the fingers. This method of opening the renal fossa also protects the pleura from injury. However, if the pleura is injured it can be repaired immediately. I have opened the pleura accidentally at least a dozen times, and once deliberately without any untoward difficulty, either at the operating table or during the convalescent period. If the pleura is friable and the sutures pull out, a bit of muscle or fascia may be sutured over the pleural rent.

This incision exposes the upper pole of the kidney, the lines of cleavage are easily established, and even the largest tumor can be delivered with comparative ease. In one case, the eleventh rib was deliberately resected, and as the tumor had firmly attached itself to the diaphragm, this muscle was resected, with obvious injury to the pleura, and the tumor mass was removed. The defects in the pleura and diaphragm were closed and this patient made an uneventful operative recovery. When the wound is closed care must be taken not to open the pleura with the needle as it is passed through the muscle layers where the rib has been removed. Not that it will cause any trouble, but it is better not to open the pleura. The rest of the closure is done routinely.

SUMMARY

1. Careful differential diagnosis is necessary. When in doubt an upper urinary tract lesion should be treated as cancer.

2. Pre-operative X-ray therapy through three ports (anterior, posterior and lateral) is the routine method.

3. Pre-operative irradiation of the ureter with radon in a catheter is the rule whenever a catheter can be passed. This blocks the ureter and makes total removal of the ureter and part of the bladder unnecessary.

4. Nephrectomy within two weeks of the completion of the combined radiation is usually indicated. At times, nephrectomy may be postponed for a much longer period, according to the indications.

5. The rib resection approach to the renal fossæ facilitates removal of the kidney, regardless of its size or complications.

6. Statistics before and after using the above technics can be supplied, but are of little value. Results have been uniformly better since adopting the above routine. The series of cases in any one man's hands is necessarily small, but I believe the results thus far obtained justify the continuance of the technic until something more practical can be found.

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SUMARIO

En el diagnostico diferencial del cancer de las vias urinarias superiores es imperativo el proceder con cautela. En caso de duda es preferible el tratar la lesion renal como si fuera cancerosa. El autor emplea de rutina la rontgenoterapia preoperatoria por las tres vias: anterior, posterior, y lateral. Es de regla la irradiacion preoperatoria del ureter por intermedio de un cateter que contenga radon en todos los casos en que sea posible la cateterizacion de este conducto. Este procedimiento bloquea el ureter y por lo tanto hace innecesario su

reseccion total o de la pared adyacente de la vejiga urinaria. Dentro de las dos semanas que siguen al termino del tratamiento radioterapico es usual el practicar la nefrectomia. La costectomia permite la visualizacion de la fosa renal y facilita la reseccion del rinon, sea cual fuere el tamano de este organo o las complicaciones que existan. En la experiencia del autor, la tecnica arriba mencionada, produce mejores resultados y por lo tanto justifica su opinion de que se debe de usar hasta que se descubra un metodo terapeutico superior.

RÉSUMÉ

Un diagnostic différentiel précis est nécessaire. Duns l'incertitu, traite les lésions des régions urinaires supériéures comme des cancers. La thérapie préopératoire radiologique routinière sera antérieure, postérieure et latérale. Quand un cathèter uréteral chargé de radon peut être introduit, on pratiguera l'irradiation pré-opératoire de l'urétere. Cela bloque l'urétère et rend inutile l'ablation totale de l'urétère et d'une partie de la vessie urinaire. Deux semaines après l'achèvement de la radiation complète on enlèvera la rein. On peut dans certains cas ajourner la néphrectomie. La résection d'une côte facilite l'approche et l'enlèvement du rein. Les résultats sont meilleurs depuis l'emploi de la technique si-dessus mentionnée. Des perfectionnements de technique sont à désirer.

Выводы

Правильный дифференциальный диагноз необходим. Если-же существует сомнение, то следует лечить лезии верхнего мочевого тракта, как будто-бы это рак. До-оперативное облучение Рентгеном через три порта, как правило, обязательно. До-оперативное облучение мочеточника посредством радона в катетере, как правило, если катетер может быть проведен. Это блокирует мочеточник и удаляет необходимость удаления всего мочеточника и части мочевого пузыря. Неффектомия делается, как правило, через две недели после комбинированного облучения. В некоторых случаях возможно отложщть неффектомию на более долгий срок. Разрез с резекцией ребра облегчает подступ к почке даже в присутствии ее большого размера и всевозможных осложенений. Результаты поправились с тех пор как автор придерживается описанного лечения. Число пациентов конечно не может быть большим, но в виду благоприятных результатов придерживается описанной техники, по крайной мере пока не найдется лучший способ.

INTERNATIONAL COLLEGE OF SURGEONS

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Management of Acute Cholecystitis*

Review of 110 Cases Treated from 1937 to 1941

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DESPITE the vast experience of many surgeons in the treatment of acute cholecystitis and its complications, there remains a wide diversity of opinion. Although some surgeons advocate the immediate or emergency operation and others a conservative treatment, we feel that there can be no dogmatic rules to follow, but rather that one utilize his judgment in treating each case individually.

In reviewing 110 cases of acute cholecystitis treated during a five-year period (1937 to 1941), very interesting time relations were found to exist. The average duration of the chronic symptoms referable to the gall bladder persisted for 5.6 years before the onset of the acute illness. The study also revealed that the acute illness had existed 5.2 days before the patient entered the hospital. This figure clearly illustrates the misuse of the term "immediate or early operation," as very few patients with acute cholecystitis enter the hospital within a few hours of the onset of the acute illness. The average period of pre-operative hospital preparation was thirty-seven hours, or one and one-half days. The average period of total hospitalization was seventeen days.

*Read before the Seventh National Assembly of the International College of Surgeons, Denver, Colorado, July 15-18, 1942.

DIAGNOSIS

The successful treatment of an acutely ill patient depends upon the establishment of an accurate diagnosis. Acute cholecystitis generally may be diagnosed by the several subjective and objective symptoms. The patient almost always gives a past history of intolerance to fatty and greasy foods, dyspepsia of varying degree, and not infrequently of previous attacks of colic diagnosed as gall bladder disease. The most common subjective symptom is pain or colic located in the right upper quadrant and referred to the right scapular region. Other common symptoms, such as nausea, vomiting, fever, chills and jaundice are listed in Table I, in the order of their frequency as found in this study. It is interesting to note that gallstones were found in almost every case.

TABLE I.
SYMPTOMS OF ACUTE CHOLECYSTITIS

SYMPTOMS	NO. OF CASES
Pain or colic	110
Gallstones	106
Nausea	102
Vomiting	67
Fever	66
Chills	36
Jaundice	27

In the differential diagnosis there are three conditions most likely to confuse

the clinician. These diseases are a perforated peptic ulcer, an acute intestinal obstruction and acute coronary thrombosis. Any of these illnesses in an atypical form may simulate acute cholecystitis, and since it requires careful study to eliminate them, there is good reason to withhold immediate operation. The surgeon often sees a patient with acute cholecystitis who complains more of a rapid heart than of abdominal discomfort. The palpitation and tachycardia are probably the result of a reflex parasympathetic nervous stimulation associated with an acutely distended gall bladder. However, where there is any question of myocardial or coronary disease, an electrocardiogram is obtained. A scout X-ray film of the abdomen and chest frequently reveals the presence of gallstones, a distended gall bladder and the presence or absence of a pneumonitis. Other diseases to be excluded as diagnostic possibilities are gastric crisis, high appendicitis, diverticulitis of the duodenum and torsion of the omentum.

Further laboratory data include blood counts, urine examinations, prothrombin time, Kahn test and estimations of blood icteric indices, sugar, nitrogen and amylase values. An elevated blood amylase level indicates pancreatitis and we have often had levels as high as one thousand units.

PRE-OPERATIVE PREPARATION

Adequate and proper pre-operative preparation of a patient ill with acute cholecystitis is a most important factor in reducing the mortality rate. The length of time necessary for the thorough preparation depends upon several conditions: (1) The age and general condition of the patient; (2) the severity of the disease; (3) the amount of dehydration; (4) the size and consistency of the gall bladder mass, and (5) the presence or absence of icterus.

As soon as a positive diagnosis is made, the patient is relieved of pain by sufficient morphine sedation. Massive hot stupes relieve the abdominal discomfort and the muscle spasm, adding to the comfort of the patient. The administration of intravenous fluids (5 per cent glucose and saline solutions) counteracts the dehydration, establishes a satisfactory fluid balance and reinforces the store of liver glycogen. If the patient is vomiting or shows evidence of abdominal distension, Wangensteen suction is immediately employed. No food is given.

A blood transfusion is indicated in every case of jaundice, in patients suffering from shock and in those having a low blood serum protein. For the past few years we have used sulfathiazole pre- and post-operatively for acute cholecystitis with moderate or severe infections because it reduces the virulence of the infection.

Patients with acute cholecystitis complicated by jaundice receive intensive vitamin K therapy before and after operation. Bile salts are given with the vitamin K orally to promote absorption of it from the intestinal tract. The prothrombin time is used as an indicator of the response of the body to the vitamin K treatment. Large doses of vitamin C or ascorbutic acid are given, as we are convinced that this has greatly improved wound healing and has reduced post-operative complications.

COURSE OF DISEASE

The optimum time for operation depends upon the correlation of several factors. The reduction in the pulse rate indicates a satisfactory response to pre-operative preparation. The change from a dry furred tongue to a moist clean tongue, and an increased feeling of com-

fort and well-being on the part of the patient are signs of improvement. We feel that a most important sign is muscle spasm and that changes in this are an important guide in evaluating the response of the disease to conservative treatment. Patients who have recurrent attacks of chills almost always have a gangrenous gall bladder, empyema or perforation with peritonitis. The average fever found in reviewing our cases was 101° F. The presence of such complications as hepatitis, cholangeitis, pancreatitis or perforation of the gall bladder frequently results in a fever of 103° F. or higher. An intensely severe constant pain deep in the abdomen may indicate a severe pancreatitis.

The most common complications of acute cholecystitis, as found in our series of cases, is listed in Table II.

TABLE II.
COMPLICATIONS OF ACUTE CHOLECYSTITIS

COMPLICATIONS	NO. OF CASES
Empyema	63
Pancreatitis	41
Hepatitis	40
Gangrene	40
Perforation with peritonitis	20

SURGICAL TREATMENT

The ultimate cure of the patient depends upon surgical intervention and the removal of the calculi. One must not forget that the disease is the direct result of the gallstones in nearly all cases, and that complete relief can almost surely be obtained by removal of these calculi alone. The type of operation depends upon the experience and judgment of the surgeon. It is dangerous to practice academic surgery in treating acute cholecystitis.

There are three very important conditions which must be considered in the safe treatment of such a patient:

(A) The age and general condition of the patient are of paramount importance. Experience has taught that patients in the sixth and seventh decades of of life withstand biliary infection poorly, and an early short operation is often life-saving. The average age of the patients in our series was fifty-four years, the oldest being eighty-one years and the youngest four years.

(B) The severity of the disease limits the length of the operating time and the type of anesthetic agent employed. No standard operative technic is applicable to all cases. During the past fifteen years we have found spinal anesthesia to be the most satisfactory anesthetic. Acutely ill patients tolerate inhalation anesthetics very poorly. Intravenous sodium pentothal and local infiltration of novocaine, or a combination of these, are much safer for an elderly debilitated patient. The supplementation of regional anesthesia with oxygen prevents anoxia.

(C) The pathology of the biliary tract and adjacent organs plays an important part in the choice of an operative procedure. Pathologic conditions most frequently encountered are: (1) Free intra-abdominal fluid; (2) edema of the tissues; (3) a distended gall bladder; (4) cholangeitis; (5) hepatitis; (6) pancreatitis; and (7) calculi which may lie in the fundus of the gall bladder, cystic duct, common duct or the hepatic ducts.

The most common type of operation is the cholecystectomy with removal of the gall bladder as well as the gallstones. There are two variations of this operative procedure: (1) The complete ligation of the cystic duct, which is done when the remaining biliary tract is essentially normal; and (2) draining the cystic duct by the insertion of a rubber tube, which allows the decompression of the entire biliary tract in the presence of cholangeitis and edema or dilatation of the ducts.

TABLE III.
OPERATIVE TECHNICS IN ACUTE CHOLECYSTITIS

TYPE OF OPERATION	CASES	DEATHS	MORTALITIES %
Cholecystostomy	32	3	9.3
Cholecystostomy with drainage of common duct	1	0	0.0
Cholecystectomy with soft rubber drainage	27	0	0.0
Cholecystectomy with drainage of cystic duct	39	1	2.5
Cholecystectomy with choledochotomy	30	0	0.0
Cholecystectomy with drainage of the common duct	11	0	0.0
TOTAL	110	4	3.6

The simplest and quickest operation which will give relief is a cholecystostomy with removal of the calculi. However, if the condition of the individual does not permit the safe removal of an embedded gallstone in the cystic duct, the gall bladder is packed with an antiseptic gauze. When the pack is removed in ten days the calculus is often dislodged and may be easily lifted from the gall bladder with a long forceps.

Choledochotomy, with or without drainage, is an operative technic which is receiving more consideration during the past few years. This procedure is indicated in every case of clinical jaundice, and we feel that it should be carried out in the presence of an elevated icteric index with subclinical jaundice. Drainage of the common duct by a "T" tube is indicated if gallstones are found in the common or hepatic ducts, if the common duct is dilated, if there is marked evidence of cholangeitis or if there is an acute pancreatitis.

The operative procedures which have been employed by us in the treatment of acute cholecystitis during the past five-year period (1937 to 1941) and the end-results are shown in Table III and in the graph.

POST-OPERATIVE CARE

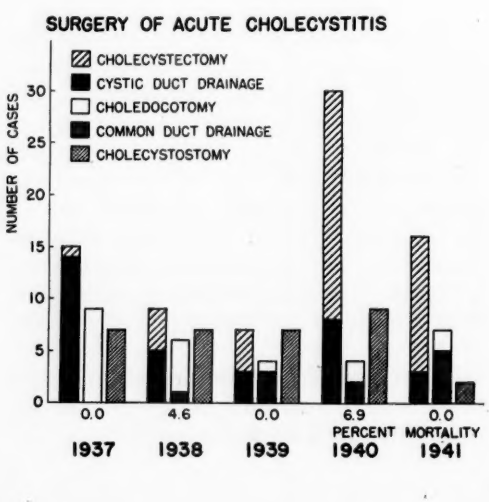
The post-operative care of a patient with acute cholecystitis and its complications requires careful and constant observation (Graph I). Orders which play an important rôle in the rapid and successful recovery of an acutely ill patient are listed as follows:

1. Adequate morphine sedation is of prime importance.

2. Intravenous administration of 5 per cent glucose and saline solutions maintains the correct fluid balance.

3. Sulfathiazole chemotherapy is ordered in doses as indicated by the severity of the infection.

4. Vitamin C is administered in adequate doses of 500 to 1,000 mgm. daily to promote rapid wound healing.



5. Vitamin K is administered in the presence of icterus.

6. The patient is placed on a progressive diet leading to a high protein, low carbohydrate and low fat diet.

7. Blood transfusions are indicated in every case of jaundice, in patients suffering from shock and in those having a low serum protein value.

8. Patients suffering from shock, hyperpyrexia and acute pancreatitis always receive oxygen by the tent method.

9. Vomiting and abdominal distension are treated immediately by the Wangensteen suction.

10. The patient is encouraged to change positions freely and to take deep breathing exercises to prevent post-operative pulmonary complications.

The prophylaxis of post-operative complications is extremely important and difficult. In Table IV are listed the types of post-operative complications encountered in our series of cases.

TABLE IV.

POST-OPERATIVE COMPLICATIONS OF ACUTE CHOLECYSTITIS

TYPE OF COMPLICATION	CASES	DEATHS	MORTALITIES %
Pneumonia	15	1	6.6
Cardiac	12	1	8.3
Atelectasis	11	1	9.0
Wound Infection	3	0	0.0
Thrombophlebitis	1	0	0.0

SUMMARY

The successful treatment of acute cholecystitis and its complications requires much experience and mature judgment on the part of the surgeon.

The treatment of a patient with acute cholecystitis must be individualized. In a review of 110 cases of acute cholecystitis, the average period of pre-operative preparation was found to be thirty-seven hours.

In this series the average duration of the acute illness before hospitalization was found to be 5.2 days.

The most important post-operative complications of acute cholecystitis are pneumonia, atelectasis and cardiovascular disease.

The mortality rate for the 110 cases of acute cholecystitis was 3.6 per cent. The causes of the four deaths were pneumonia, coronary thrombosis, pulmonary embolism and generalized peritonitis with atelectasis.

SUMARIO

El exito del tratamiento de las colecistitis agudas y de las complicaciones que presentan depende en gran parte de la experiencia del cirujano. El tratamiento de esta clase de pacientes siempre debe de ser individualizado. El estudio de 110 casos de colecistitis aguda revelo que el periodo de preparacion preoperatorio fue por termino medio de 36 horas, existiendo en general un lapso de 5.2 dias entre el comienzo de la enfermedad y el del periodo de la hospitalizacion. Las complicaciones de mayor importancia en las colecistitis agudas son: la pulmonia, la atelectasia y las crisis cardio-vasculares. En esta serie de 110 casos la mortalidad fue de 3.6 por ciento. La causa de la muerte en los cuatro casos que terminaron fatalmente se debio a la pulmonia, la trombosis de la arteria coronaria, al embolismo pulmonar y a la peritonitis general con atelectasia.

RÉSUMÉ

Pour traiter avec succès la cholécystite aiguë et ses complications, et importe que le chirurgien soit experimenté, habile et bien réfléchi. Les mesures à prendre doivent être appropriées à chaque malade. Dans 110 cas de cholécystite aiguë, la moyenne de la durée de preparation pré-opératoire du malade fut

trente-six heures. Les complications post-opératoire de la cholécystite aiguë sont la pneumonie, l'affaissement pulmonaire (atelactase) et les troubles cardiovasculaires. Dans ces 110 cas, lu mortalité, fut de 3.6 pour cent. Il y eut quatre decès, un cas de pneumonie, un de thrombose coronaire, un d'embole pulmonaire et un de péritonite généralisée compliquée d'atélectase.

Выводы

Удачное лечение острого холецистита и его осложнений требует много опыта со стороны хирурга. Лечение нациента страдающего острым холециститом нужно индивидуализировать. Предоперативный период в 110 случаях острого холецистита равнялся в среднем числе тридцати-семи часам. Длительность острой болезни до госпитализации равнялась в среднем 5.2 дням. Пневмония, ателектаз и сердечно-сосудочныя заболевания были главными осложенияами после операций. Смертность в этой группе 110 случаев равнялась 3.6 процентов. Причинами смерти в четырех случаях были: пневмония, коронарной тромбоз, легочная эмболия, и разлитый перимонит с легочным ателектазом.

RESERVATIONS

Members of the International College of Surgeons and their friends who desire information as to hotel accommodations while attending the Fourth International Assembly in New York City, June 14-16, 1943, may write to

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Treatment of Pelvic Dystocia in Cuba*

Summary of Results in the Municipal Maternity in the Last Four Years (1934-37)

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IN THE latter part of the last century, Pinard and his followers laid down foundations for a new treatment of pelvic dystocia, discarding the forceful interventions and interruptions of pregnancy, advising instead, according to each case, either hysterotomy or the removal of the obstacle by symphysiotomy. Professor Eusebio Hernandez attended at that time the Baudelocque Clinic in Paris and took active part in the revolution that changed the obstetric procedures of that epoch.

Upon his return to Cuba, he brought with him these new principles, and practiced symphysiotomy not only at the University but in his private practice as well. His chair in the lecture room was always a focus of dissemination among the numerous groups of his pupils describing new methods of solving difficulties of labor due to pelvic disproportions.

Symphysiotomy was practiced in Cuba until 1923 by the so-called "open method" of Farabeuf, but from that year on, due to our efforts, the subcutaneous method began to be used. We have, therefore, nearly fifteen years of experience in the practice of subcutaneous symphysiotomies, and at this time, this is the only type of pelviotomy practiced in Cuba. Regarding cesarean section, from the beginning limited among us to the cases of extreme pelvic defects, we may say that it was very rarely performed because the only method used was the classic cesarean section on the body of the uterus. Lately, the introduction of the transperitoneal cesarean section on the segment, and its diversified technics, especially that of Marruz and Vilalta (peritoneal isolation), has enlarged the field of indications for hysterotomy when the syndrome of cephalopelvic defect is present, thereby benefitting the cases presenting extreme degrees of narrowing complicated by infection of the uterine contents.

THE ATTITUDE OF THE CUBAN SCHOOL REGARDING PELVIC DYSTOCIA

This attitude rests on three premises: (a) Cephalopelvic insufficiency; (b) infrequency in Cuba of extreme pelvic defects, and (c) results obtained by subcutaneous symphysiotomy.

(a) Cephalopelvic Insufficiency.—We follow the physiologic aspects of the problem now accepted by all, but this was not true when our teacher Hernandez proclaimed that "it is easier for a soft and reducible head to go through a narrow pelvis than for a hard and bony one through a pelvis of normal dimensions."

We frequently note how spontaneous delivery takes place through a pelvis of light or moderate deficiency, with a live fetus at term, while, on the other hand,

*Translated by T. Seydel Vaca, M.D., Philadelphia, Pa.

(*Translator's Note:* The printed pamphlet from which this translation was made shows exactly the numbers and percentages herein reported. There seems to be a slight discrepancy in the percentages as we figure them and also with the figures of the author at the beginning of this chapter. However, we do not feel this is important enough to make any changes.)

in many cases where the pelvis is normal in its development and capacity, we may have a true picture of pelvic dystocia if the fetal head is large and irreducible or falls into a defective presentation (forehead, sinciput).

Therefore, it is almost impossible to foretell the course of labor in light or moderate degrees of pelvic narrowness. In these cases it is necessary to wait for the several factors of uterine contractility, rupture of the membranes, and time elapsed to enter into play against the volume of the head and the pelvic capacity, in order to measure the possibilities of a normal evolution of labor or its impossibility, giving rise to what we have functionally classified as the cephalopelvic insufficiency syndrome.

(b) Infrequency in Cuba of Extreme Pelvic Defects.—Taking into account the course we must follow before these defects, Hernandez divided the several types of pelves into those requiring cesarean section and those calling for symphysiotomy. He recommended cesarean section (giving up all hope of transpelvic delivery) when the pelvis was flat, with a useful diameter of 8 cm. or less, or when it was of the channel type of less than 9 cm. The others, except, of course, those presenting a typical narrowness of large degree, he considered as proper subjects for symphysiotomy.

At the present moment we follow the same classification, but with a tendency to be a little more liberal in the use of cesarean section if there are other factors, such as lack of elasticity of the soft parts, or a frankly over-lapping anterior parietal with a large fetus in a pelvis of 8 to 8½ cm. in diameter.

Following these principles in the circumstances above detailed, our statistics show a total of 192 symphysiotomies against 26 cesarean sections in the same period in the treatment of pelvic dystocia. This fact in itself is enough to demonstrate that in the matter of pelvic defects in Cuba, the predominant type is one of slight narrowness, with a good sacral curvature and a good diameter well above 8 cm., not taking into account that in at least one-third of the cases, symphysiotomy is practiced in pelves of normal shape and dimensions, but in which the cephalopelvic syndrome is due to fetal factors that will produce the same clinical picture and conditions of a skeletal defect.

It will be easily understood, therefore, that extreme pelvic defects in Cuba being rare, we have practiced only 26 cesarean sections in the same lapse of time in which we have performed 192 symphysiotomies, not counting, of course, cases in which labor went through to a spontaneous termination. This is only one of the many points that characterize our attitude regarding the treatment of this kind of dystocia, because in the type of pelvis calling for cesarean section there is nothing to be hoped for regarding labor through the pelvis, and all attempts at delivery will have a disastrous termination. It is unnecessary, therefore, to wait for signs of difficulty, as labor could not be completed and would serve only to aggravate the maternal danger in the hysterotomy that would necessarily have to follow.

Our cases of cesarean—diagnosed pelves, therefore, are allowed to enter into labor and to advance a few hours, only with the purpose of intervening at the proper time upon the lower segment while enlarged, but never with the intention of allowing the full development of all the factors that may impede or facilitate the intrapelvic progress of the fetus.

To wait for evidence of sufficient progress (and in order to be acceptable evidence it must be carried far enough) is permissible only in cases of pelves sel-

lective for symphysiotomy, where delivery by the normal route seems possible and where we may not be faced later on by the necessity of having to perform a cesarean section on a patient who has been laboring for days or many hours after rupture of the membranes.

If we take into account that spontaneous labor takes place at least in 50 per cent of the cases where narrowness of the pelvis is slight or moderate, that is, not less than 8 cm. in diameter, under favorable circumstances of uterine contraction, etc., due to judicious waiting, it will be understood why the proportion of our interventions for this type of dystocia is so small, amounting only to 1.25 per cent for both cesarean sections and symphysiotomies combined, which are the only interventions practiced. On the other hand, in maternity cases in which the enlargement of the pelvis by surgical means is not practiced, the number of cesarean sections in the treatment of pelvic defects is always more than 2 per cent. Furthermore, in spite of all that has been said before, physicians continue to employ forceps and even version to solve problems created by bone defects that come into evidence only after long hours of labor and rupture of the membranes, when any surgical measure by the abdominal route is risky for the mother.

(c) Results Obtained by Subcutaneous Symphysiotomy.—The possibility of increasing (without any maternal risk) the capacity of the pelvic girdle, even if it is only by a few millimeters, is undoubtedly a great forward step in obstetric surgery. It is even more important in countries like ours where, because of special conditions of race, climate and diet, the syndrome of cephalopelvic insufficiency takes place eight times out of nine in pelves showing only a very light degree of narrowness or are completely normal from the standpoint of shape and dimensions. We believe this to be one of the reasons for the results obtained by the Cuban School.

The fact that we often confront cases in which the disproportion is relative, and occasionaly septic uterine contents are present, has compelled us to study and apply all the means that may be required for the solution of these problems, by way of the pelvis instead of by abdominal surgical intervention.

When confronting pelves requiring symphysiotomy, that is, those having a slight or moderate narrowness and presenting relative disproportion, our attitude is "watchful waiting and eventually removal of the obstacle by symphysiotomy."

Following this method, we devote much time and attention to each case, and we need, through the natural evolution of labor, to study and estimate correctly all the elements that bring it about, following each stage, and regulating the uterine force, studying the progress or lack of dilatation and engagement, avoiding as far as possible sepsis and maternal exhaustion or regulating the course of events so as to prevent fetal injury, in order to arrive at a spontaneous labor after a reasonable expectation. This is done in case we should be compelled to enlarge the pelvis to accomplish delivery under the best circumstances, that is, with a functionally capable uterus, with little injury to the mother and the fetus and everything else in good condition, from the standpoint of sepsis.

Once the pelvic enlargement is accomplished, we continue observing and directing as may be needed, the evolution of labor momentarily stopped by the pelvic obstacle, which symphysiotomy has already eliminated; very often we have to wait until dilatation is complete and presentation has been properly accomplished through the several stages

of its mechanism, arriving finally at a successful delivery. We may find, more rarely, that we must terminate labor by forceps, once the head is resting upon the perineal floor. For this reason we believe that in order to practice symphysiotomy with success, we must have careful obstetric training.

The most comprehensive surgical training that modern obstetrics requires of those who practice it, should not be acquired at the expense of purely obstetric principles, as it seems to us happens in some clinics abroad.

In our recent travels, we have observed that there are schools where the enthusiasm for brilliant abdominal technics has relegated to a secondary place the study and appraisal of the purely obstetric resources, leading their followers to surgical solutions of certain problems that with little more devotion and better reasoning might have been solved otherwise, perhaps in a more modest way, but with better results. In this connection, only a few weeks ago, we heard Professor Couvelaire complain of the mediocre results at present obtained from the different technics of cesarean section in cases in which the ordinary conditions of a few hours of labor, recently ruptured membranes, etc., were lacking, and we have heard him advise that cesarean section should not be converted into the "cream puff" of obstetrics.

However, the purely obstetric course is difficult to follow through long hours, perhaps nights, of waiting and careful study of the phenomena of pregnancy and labor. Besides, obstetric practice frequently requires unlimited time which, in the complex life of our big cities, is not at the disposal of the obstetrician, and rapid solutions must be found. These circumstances are perhaps the worst enemies of symphysiotomy at present.

We feel, therefore, very well satisfied with the results obtained in our work, upon which the present report is based and justified.

TABLE I.—RESULTS OF THE TREATMENT OF PELVIC DYSTOCIA IN THE MUNICIPAL MATERNITY OF CUBA (1934-37)

Labors	16,775	
Symphysiotomies	192	(1.1%)
Cesarean Sections	26	(0.15%)
Total Interventions	218	(1.25%)
Cesarean Sections	26	
Maternal Mortality	0	
Gross Fetal Mortality	2	
True Fetal Mortality	0	
Technics Employed		
Classic	6	
Transperitoneal upon the segment	15	
Marruz-Vilalta	5	

All the cases in which cesarean section was performed were dismissed in perfect condition in thirty days or less, with the exception of three that remained longer on account of suppuration of the abdominal wound which eventually healed normally in all of them. No other maternal complications occurred in the post-operative course of our hysterotomies.

There were two fetal deaths. The first patient, in a former delivery treated by symphysiotomy, had yielded a dead fetus and again, after cesarean section (Marruz-Vilalta technic), was delivered of a dead fetus, which probably was the case before intervention. In the other patient the fetus died from congenital anomalies incompatible with life.

TABLE II.—SYMPHYSIOTOMIES IN 16,699 DELIVERIES

Symphysiotomies	192	(1.1%)
Maternal mortality	3	
Maternal morbidity	3	
Gross fetal mortality	19	(9.9%)
Fetal mortality	10	(5.1%)

CASE REPORTS

Maternal Mortality.—Case No. 28224. Multipara. Dilatation of about the size of the

palm of the hand. Symphysiotomy. Local anesthesia with percaine. Live fetus expelled 15 minutes later. A few minutes after delivery the patient became unconscious and died. Autopsy revealed acute dilatation of the heart.

Case No. 32496. Primipara. Entered hospital after considerable intervention outside, with dilatation of about the size of a silver dollar; membranes sound. Symphysiotomy performed, with complete dilatation. There was a bad odor from the amniotic fluid and an hour later a live fetus was expelled. Great fetidness. Normal delivery. Repair of episiotomy. Left delivery room with temperature of 39.15° C. and pulse rate of 140. Death resulted from puerperal septicemia twenty days later. No localization in the symphysis or genital tract could be discovered.

Case No. 32719. Primipara. Entered with a dilatation the size of half a dollar. Healthy membranes ruptured during examination. Complete dilatation twelve hours later. Amniotic liquid fetid and contaminated with meconium. Symphysiotomy performed. Live fetus expelled one hour later. Normal delivery. Episiotomy repaired. Twenty-four hours after rupture of membranes temperature rose to 39° C. and pulse rate to 110. The next day the temperature was 41° C., pulse rate 130. Patient died on the 13th day from puerperal septicemia. No localized infection.

Maternal Morbidity.—Case No. 13662. One previous labor with the use of forceps; dead fetus. Second labor, symphsiotomy with complete dilatation. Application of forceps five hours later with easy extraction of a live fetus. Tear of the anterior commissure. Incontinence of urine. Phlebitis followed. Patient dismissed four months later with child, still suffering from incontinence.

Case No. 29613. Primipara. Symphysiotomy performed with dilatation of about the size of the palm of the hand. Live fetus expelled one hour later. Interpubic suppuration. Dismissed completely recovered on the 56th day.

Case 32513. Multipara. Complete dilatation. Symphysiotomy performed, with expulsion of live fetus a few moments later. Interpubic abscess; healed later. Dismissed in good condition on the 40th day.

Symphysiotomies with Fetal Mortality.—Case No. 11513. Primipara. Twenty-three years old. Forceps applied at home. Entered hospital and symphysiotomy performed with complete dilatation. One-half hour later expelled dead fetus.

Case No. 11991. One previous labor with dead fetus. Symphysiotomy with complete dilatation. A few minutes later fetus expelled but could not be revived. Shortly before delivery, fetal heart sounds appeared normal. No Wassermann.

Case No. 13053. Primipara. Complete dilatation. Symphysiotomy performed. Two hours later, forceps applied and withdrawn when internal rotation was accomplished; then the head returned to the transverse position. New application of forceps to rotate head. Four hours later, and seven hours after symphysiotomy, a dead fetus was expelled by abdominal manipulation.

Case No. 14500. Multipara. Three previous easy labors with dead fetuses. Two abortions. No living offspring. Symphysiotomy performed with complete dilatation. A fetus was expelled one and one-haf hours later suffering from respiratory difficulty and died.

Case No. 14766. Primipara; thirty years old. Dilatation about the size of the palm of the hand after fourteen hours; symphysiotomy. Signs of danger to fetus prompted extraction by Delestre forceps. Dead fetus.

Case No. 17036. Primipara. Dilatation about the size of a silver dollar. Thirty nine hours of labor. Symphysiotomy performed. Expulsion of dead fetus one hour later.

Case No. 19011. Primipara. Sixty-one hours of labor. Dilatation about the size of a silver dollar. Rupture of the membranes in early stage. Extraction, ten and one-half hours later, by Delestre forceps, of nearly asphyxiated fetus that could not be revived.

Case No. 20330. Multipara. Brow presentation. Thirty-two hours of labor. Complete dilatation. Symphysiotomy performed. Expulsion, fifteen minutes later, of a dead fetus.

Case No. 20392. Twenty-seven hours of labor. Complete dilatation. Symphysiotomy

performed. Expulsion, thirty minutes later, of a dead fetus.

Case No. 21215. Primipara. Forceps applied at home. Symphysiotomy at hospital. Delivery five minutes later. Living fetus, died six days later from intracranial hemorrhage.

Case No. 21456. Primipara. Prolapse of the cord which did not pulsate. Complete dilatation and symphysiotomy. Expulsion, one-half hour later, of a dead fetus.

Case No. 23593. Primipara. Symphysiotomy and expulsion of dead fetus. Clinical history incomplete.

Case No. 25017. Primipara. Complete dilatation. Six hours later dead fetus extracted by Delestre forceps.

Case No. 26942. Primipara. Breech presentation. Symphysiotomy with dilatation smaller than the palm of the hand. Dead fetus.

Case No. 27969. Primipara. Breech presentation; delivery of body; head impacted at superior strait. Walcher position; Champetier de Ribes maneuver; both failed. Symphysiotomy performed. Dead fetus.

Case No. 32311. Primipara. Dilatation of about the size of a silver dollar. Amniotic infection. Symphysiotomy followed by expulsion, eighteen hours later, of a dead fetus. Wassermann 3+.

Case No. 30071. Primipara. Complete dilatation. Symphysiotomy, and one hour later expulsion of a dead fetus (total duration of labor 48 hours).

As may be seen, the three cases that mar our record of maternal mortality cannot be ascribed to pelvic enlargement by symphysiotomy, which brought about a normal evolution of labor. Case No. 28224 was a sudden death, and autopsy revealed acute dilatation of the heart. In the other two cases (No. 32496 and No. 32719), intrapartum sepsis became general and caused death of the patients. No lesions were found in the pelves or genital organs.

There are, therefore, cases in which death has occurred after symphysiotomy, but in no way can the latter be blamed.

Regarding the morbidity of our symphysiotomies, Case No. 13662 presented a communicating anterior tear produced by the forceps. We insist, where it is necessary to employ forceps after symphysiotomy, that episiotomy must be performed before the introduction of the first blade. The fulfillment of this requirement, and a careful extraction, are complete guarantees against communicating tears in the few instances in which the forceps is used after symphysiotomy. This is the only case in our series.

With respect to fetal mortality, there are some cases in which we can justly assert that there could not have been greater success with any other kind of treatment. Cases 11513, 21215 and 27969 were subjected to forceful interventions before pelvic enlargement was accomplished. The first two, by the application of forceps at their homes, and in the last one symphysiotomy was performed after failure of several attempts to release the head from the superior strait by the Champetier technic, aided by the position of Walcher.

Case No. 32311 showed a positive Wassermann. Case No. 13053, evidently complicated by dystocia of muscular origin, required two applications of the forceps, rather timorously performed, without accomplishing the extraction of the fetus which was expelled hours later by expression through the abdominal walls. This case was not properly attended.

Case No. 14500 presented a history of three dead fetuses after easy labors. Not one child living. This is probably a case of active Lues.

Case No. 14766, after fourteen hours of waiting, with dilatation about the size

of the palm of the hand, and after evidence of intense fetal suffering, extraction was performed at once.

Case No. 19011, sixty-one hours of labor ended by extraction with forceps ten and one-half hours after symphysiotomy.

Case No. 21456 was that of pelvic dystocia complicated by prolapse of the cord, which did not pulsate.

These cases of fetal mortality have nothing to do with the enlargement of the pelvis by symphysiotomy and must, therefore, in our opinion, be discarded.

TABLE III.—MORTALITY FOLLOWING SYMPHYSIOTOMY

Symphysiotomies	192	
Primiparæ	174	(70%)
Fetal Mortality	7	(5.2%)

Forceps were applied after symphysiotomy in 9 out of 178 vertex and 8 brow presentations (4.8 per cent).

There was spontaneous termination after symphysiotomy (discarding 6 breech presentations) in 177, or 95 per cent. In 182 cases, or 90 per cent, delivery was accomplished within three hours after symphysiotomy. Ninety per cent of the cases of symphysiotomy were dismissed in perfect condition within the following thirty days.

TECHNIC OF SUBCUTANEOUS SYMPHYSIOTOMY

Tincture of iodine is applied to the well-shaved pubic region. A general anesthetic of nitrous oxide is given. A soft catheter is then introduced into the bladder (Marruz-Vilalta), to empty it and permit palpation and deviation of the urethra during the operation.

Two assistants support the thighs in obstetric position. With the middle and index fingers of the left hand introduced into the vagina, the urethra is pushed to one side and the superior border of the symphysis is located. With the point of a straight knife in the right hand, cutting edge downward, the skin and cellular tissue are punctured at the level of the mid-symphysis, pushing until it strikes the bone or the articulation; without losing contact with it, the blade of the knife is pushed upwards, always with the cutting edge downward, until it reaches the highest point of the articulation, when it is pushed into it with slight lateral movements. The ordinary knife is then withdrawn, and through the same opening a blunt point knife is introduced, directing it toward the middle of the articulation, carrying it upwards without losing contact with the symphysis until it falls into the small groove that has been prepared by the sharp knife upon the highest point of the articulation. At this stage it is at times difficult to follow exactly the path prepared by the first knife, but since we are using a knife, the point of which is not button-like but simply blunt, we can separate the tissues and open the way until we place it directly upon the symphysis.

We begin now the downward cut. Sometimes it is difficult to find the interarticular line and a few trials are necessary. There are other cases in which the symphysis is so hard and resistant that it seems as though we were cutting the true bone. During the cutting operation, we have a sensation, as Cathala has said, like cutting through a granular substance. While the blade cuts downward, the handle of the knife goes up, and at the end of the operation it is almost resting upon the abdominal surface. The fingers in the vagina follow the blunt point of the instrument in its descent, directing the attack upon the ligament (arcuatum) and at the same time we can appreciate the amount of separation obtained while the assistants supporting the thighs also help by grad-

ual and slow flexion and abduction to increase it to the required width under the surgeon's direction.

Very frequently it happens that after cutting the arcuatum no appreciable separation is obtained; in these cases it is necessary to withdraw the knife, and turn its sharp edge upwards, to cut again the remaining fibres of the superior ligament. Again, at other times, the knife has failed to cut the posterior ligament upon which we now turn in order to obtain the required separation. Lastly, we cut all the ligaments that are necessary to obtain (helped by flexion and abduction of the thighs) the required separation, that is, about two fingers' breadth (exceptionally, we may need three fingers' breadth).

If there is any loss of blood through the small skin incision it can easily be stopped by compression from inside or outside, or both, avoiding thereby the formation of a hematoma, which is a very rare occurrence in our practice.

At the termination of labor a metal clip is placed on the skin wound.

POST-OPERATIVE PROCEDURE

Once the pelvic sufficiency is obtained, general anesthesia is stopped and all attention devoted to the evolution of labor which can now proceed after the bone obstacle has been removed. If at the time of intervention there was complete dilatation, very soon the uterine contractions will bring about internal rotation of the head now pressing against the musculo-aponeurotic layers that constitute the perineal floor. If, on the other hand, after symphysiotomy is performed, the cervical dilatation is not complete, it is necessary to wait for a while until the presenting part, after removal of the obstacle, may act as a factor in bringing about dilatation. Symphysiotomy before complete dilatation is extremely interesting. If the membranes have ruptured prematurely and the presenting part in its descent is detained at the upper part of the pelvic cavity, there being no pressing agent, dilatation will cease. In our practice, we have noted time and again that the mechanism of the effacement of the cervix, as well as the dilatation of the os, will occur automatically under the action of the longitudinal muscular fibres of the uterus, but only to the size of about a silver dollar (4 cm.). From there on, there is need, besides, of the action of what Varnier called the "dilator cone," represented by the bag of waters, or in default of this, by the presenting part.

We have observed frequently, when the membranes rupture prematurely, that the presenting part remains high and ceases to progress because of cephalopelvic insufficiency when dilatation reaches 3 or 4 cm., and thereafter remains stationary no matter how good the muscular contractions of the uterus may be. If time is allowed to elapse in these circumstances, we will find also that by pressure above and circulatory stasis at the level of the external os, edema develops in these parts which, soft in the beginning, may become so hard later on by interstitial hemorrhages at this level, as to cause the well known rigidity of infiltration, which has been lately studied in detail by Cathala and in the etiology of which, as claimed by Wallich, though in a minor degree, sepsis plays a part.

Symphysiotomy in these cases stops compression of the upper part of the cervix between the head and the pelvis, alleviating thereby circulatory stasis and its aftermath, edema, allowing the descent of the presenting part to exert its dilator action and improving the mechanism of uterine contractions by renewing the stimulus caused by cervical excitation. We must not forget that pelvic dystocia is frequently the mother

of uterine dystocia, either entirely cervical from edema produced by pressure and circulatory stasis, or else by causing anomalies in the contractions of the uterus due to the prolongation of labor and the lack of an exciting agent in the cervix.

Once the pelvic obstacle has been removed we must let labor continue its natural evolution, just as in cases in which there has been no enlargement of the pelvis, and wait for the end of the period of dilatation, keeping an eye on the expulsive period later on. At this moment, it behooves the obstetrician to exert great care to avoid vestibular or anterior tears, which may happen as a serious complication of pelvic enlargement, but which are, nevertheless, certainly avoidable if we take the precaution of, first, performing a good episiotomy when the perineum begins to bulge, and second, to join both knees of the patient with the thighs vertically placed at the moment of expulsion or extraction of the child.

If we have to employ forceps, episiotomy must be performed before the introduction of the first blade.

In multiparae of many labors and in patients who have suffered extensive tears, badly healed, episiotomy is unnecessary because the perineum is extraordinarily enlarged and does not oppose the delivery of the fetus; but in primiparae and, in general, in all patients who present a normal perineum (especially if there is increased resistance) it is absolutely necessary that the enlargement of the bony girdle of the pelvis be followed also by an enlargement of the soft tissues through episiotomy in order to avoid tears in the direction in which the bone support is missing.

As may be seen, the procedure to be followed after symphysiotomy differs very little from the course required by normal labor where intervention has not taken place. We must add, in confirmation of what Hernandez stated, that we have observed in the majority of instances, a complete accomplishment of internal rotation, except in those cases of large multiparae or very extensive episiotomies when delivery has taken place in one of the anterior oblique positions.

Following a small dressing upon the skin wound, the patient is placed in bed and given the ordinary after-labor care.

If there is great pain in the sacro-iliac joints, it may be relieved by the use of a belt, or, better still, by folded sheets placed so as to give support to the hips.

The patients we have operated on move in bed from the first few days and lift themselves often in order to have the hip wedges adjusted.

The length of the period in bed depends upon the cicatrization of the perineum and also upon the improvement of the sacro-iliac pain. The latter, in some cases, is persistent and may compel the patient to stay in bed for three or four weeks after intervention, during which time we try, nevertheless, to have the patient move her legs.

Some of the patients operated on walk with some difficulty at the beginning, but in a few days this trouble disappears.

SUMMARY

Pelvic dystocia in Cuba takes place eight out of nine times in pelves selective for symphysiotomies. The procedure is cesarean section, when indicated; otherwise symphysiotomy is performed in all other cases. Very satisfactory results are obtained from this course of treatment. Forceps and version are not resorted to in Cuba in the treatment of pelvic dystocia. Our technic of subcutaneous symphysiotomy fills all the requirements of safety and simplicity desirable for this kind of intervention.

The clinics that do not practice pelvic enlargement are compelled to increase the number of their cesarean sections, operating on many cases which otherwise would have progressed to a spontaneous solution. They, therefore, cannot avoid many forceful interventions (forceps, version, craniotomy).

SUMARIO

En Cuba las distocias oseas se presentan, en ocho de nueve casos, en pelvices que responden a la sinfisiotomia. La operacion cesarea se practica solamente en los casos que es indicada; de lo contrario, se usa la sinfisiotomia. Los resultados con esta norma de tratamiento han sido muy satisfactorios. En Cuba no se usa el forceps ni la version en el tratamiento de las distocias oseas. Nuestra tecnica operatoria de sinfisiotomia subcutanea llena todos los requisitos de simplicidad y seguridad deseables enesta clase de intervencion quirurgica. Las clinicas que no practican el ensanchamiento de la pelvis cuando lo es indicado se ven obligadas por necesidad a recurrir a la operacion cesarea o las intervenciones (forceps y version) cuyo corolario con frecuencia es la basiotripsia.

RÉSUMÉ

La dystocie pelvique à Cuba a lieu dans huit de neuf cas choisis pour symphysiotomie. Quand l'indication, existe, la section césarienne est l'opération de choix; dans tous les autres cas, on aura recours à la symphysiotomie. Cette conduite nous a obtenu des résultats trés satisfaisants. A Cuba on n'a pas dans les cas de dystocie pelvique, recours aux forceps on à la version. Notre technique de symphysiotomie sous-cutanée offre tous les desiderata de sûreté et de simplicité. Les cliniques qui ne pratiquent pas l'agrandissement du pelvis forcément augmentent le nombre de leurs sections ovariennes, opérant ainsi dans beaucoup de cas qui terminerarent spontanément et aussi ont bien souvent recours à des interventions forcées (forceps, version et à leur frequent corollaire—basiotripsy.

Выводы

В Кубе тяжелые роды по причине таза происходят восем раз из девяти случаев избранной симфизиотомии. Здесь правильная процедура при показаниях это кесарское сечение, иначе делается симфизитомия. Этот метод дает весьма удовлетворительные результаты. Щипцы и версия не употребляются. Наша техника отвечает всем требованиям несложной и безопасной операции. Клиники, в которых не практикуют увеличение размеров таза, обязанны увеличивать число кесаровских лечений, производя операции в случаях, которые-бы быть может разрешились-бы спонтанно, и поэтому должны прибегать к таким интервенциям, как наложение щипцов, версия и их частей сопутних — базиотрипсия.

Cirugía Gástrica *
(Gastric Surgery)

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SUMMARY

The various surgical procedures in the treatment of gastroduodenal ulcers are discussed. Gastrectomy (Pólya type) is recommended as the method of choice, and the reasons for this preference are given on a physiopathologic basis.

EN LA cirugía gástrica es problema a discusión las indicaciones de la gastro-enteroanastomosis y la gastrectomía; a pesar de las estadísticas presentadas por cirujanos de todos los países, las indicaciones de una y otra siguen sujetas a preferencias de escuela o a simpatías personales.

La gastro-enterostomía gracias a los primeros resultados verdaderamente sorprendentes y quizás a la falta de observación por largo tiempo de los enfermos, sus indicaciones se fueron ampliando y se alejó de la primera para la que fué creada: la extenosis pilórica, así es como podemos observar en diversos tratados que se aconseja la anastomósis para las más variadas lesiones y los más diversos síndromes gástricos; los que a la luz de las estadísticas, de los estudios clínicos y de los radiológicos proseguidos al cabo de los años en enfermos operados, se ha comprobado no sólo su falta de utilidad terapéutica, sino tambien su nocividad.

Los estudios de fisiopatología han descartado terminantemente las primitivas indicaciones de la operación; como por ejemplo: en la hiperclorhidria rebelde, en la gastrosucorrea, en las dispepsias, en los diversos síndromes pilóricos por úlcera gástrica o duodenal sin tomar en cuenta la localización precisa de la úlcera, ni sus caracteres clínicos y anatómicos.

La gastro-enteroanastomosis es operación que sólo obra restableciendo la en la extenosis pilórica por úlcera del píloro cicatrizada, puesto que es operación que sólo obra restableciendo la evacuación normal del estómago. Encuentra menor indicación en los síndromes pilóricos por lesión ulcerosa en evolución pues en éllos las estadísticas nos demuestran, que salvo aquellos casos en que el tratamiento médico asociado ha podido cicatrizar la úlcera, los peligros de las complicaciones (hemorragia, perforación, cancerización, etc.), siguen existentes y aún agravados por los fenómenos de círculo vicioso; de evacuación simultánea por la boca anastómica y la vía natural o por el reflejo duodenal que si bien abate la acidez, especialmente del ácido clorhídrico libre predispone en cambio, al decir de las estadísticas, a la cancerización de la úlcera. En relación con el abatimiento de la acidez libre, causa muy frecuentemente invocada si nó para la producción de la úlcera, sí para su persistencia, los

* Presented at the Third International Assembly of the International College of Surgeons held in Mexico City, August, 1941.

estudios y las estadísticas más recientes son tambien poco demostrativos de la utilidad de la operación: para Lewisohn la baja de la acidez es de sólo 3 por ciento. Opinión semejante expresan Von Haberer y Braithwaite en copiosas estadísticas. Moynihan insistía sobre el número considerable de cánceres descarrollados sobre viejas úlceras operadas por gastro-enterostomía a pesar del buen funcionamiento de la boca anastomótica. Los trabajos de Anatomía Patológica de Orator llevados a cabo sobre 170 piezas de resecciones, secundarias a la gastro-enterostomía encuentra que hay transformación maligna en 2 por ciento de los casos para el fundus y de 30 por ciento para las úlceras prepilóricas. Quizás como decíamos la falta de observación durante varios años de los enfermos gastro-enterotomizados ha hecho a algunos cirujanos guardar fidelidad a esta operación en los casos arriba mencionados; pero para todos, es de práctica corriente asistir a enfermos gástricos con rica sintomatología a los que años antes se les había operado de anastomósis.

Las gastroscopías sucesivas practicadas a estos enfermos, nos han demostrado la persistencia de su estado ulceroso y aún las alteraciones gástricas en las proximidades de la boca anastomática, (edema, rigidés, enrojecimiento y sequedad de la mucosa) por esto habría que pensar con Gutmann que la persistencia clínica y radiológica, y agregamos nosotros gastrocópica, parece justamente el mejor test de malignidad. Si a éstos enfermos se les sujeta al tratamiento sintomático de practicarles una vía de evacuación-gástrica con lo que si bien disminuyen sus molestias, porque el síndrome pilórico se oculta; fácil es comprender el futuro de ellos. En tales casos la gastro-enterostomía hace las veces de tratamiento paliativo que encubre el serio drama de un cáncer en evolución tidario de la gastro-enterostomía, confiesa en 187 operados 4 han tenido poste- y pues la cirugía moderna trata de definir las causas para suprimirlas, huyendo de los tratamientos que ocultan la realidad del proceso patológico debería ser proscrita toda operación que sólo llenare un desideratun parcial, sintomático o mecánico, aún corrigiendo la manifestación pilórica, pero sin quitar la causa intrínseca del proceso.

La gastro-enteroanastomosis igualmente ha sido aplicada en la terapéutica de las úlceras duodenales (aún—cuando actualmente se consideran comprendidas dentro de un sólo síndrome la úlcera gástrica y la duodenal, llamándose la enfermedad ulcerosa, por tener patogenia, fisiopatología, sintomatología y evolución comunes y aún por la frecuente coexistencia de ambas); en cualquier forma, la predilección que los cirujanos han tenido para ella, nos induce a meditar que si bien su indicación precisa sigue siendo la misma: la estenosis pilórica que nos obliga a abrir una vía de derivación; en cambio el sólo hecho de disminuir el paso del contenido gástrico o aún suprimirlo por el duodeno, pondrá en reposo el órgano y en condiciones mejores de reducir la infección y por ende en vías de recuperar su fisiología normal. Estas son quizás las razones por que nuestras estadísticas mejoran tratándose de úlcera duodenal no complicada (hemorragia, perforación, periduodenitis, lesión angiovesicular, etc.).

En cuanto a las estadísticas extranjeras las más de éllas parecen ser muy favorables, aún cuando algunas no hacen referencia a observación por varios años de sus enfermos. En úlceras duodenales no complicadas Galpern sobre 524 enfermos seguidos por uno a tres años encuentra 67.2 por ciento de buenos resultados, 10.9 por ciento mejorados y 21.9 por ciento de resultados muy medíocres o malos. Una primera estadística de la

clínica Mayo daba curaciones en 90 por ciento sin indicar duración de vigilancia de los enfermos en más recientes estadísticas no se muestra tan optimista.

Savikoff da un promedio de 74 por ciento de éxitos. Florkcenda 55 por ciento. Ohly se muestra menos satisfecho, pues la curación sobrevino en sus enfermos en 38.8 por ciento. Junernann da 48.8 por ciento. En cambio Hartmann, gran parriormente a la operación cáncer gástrico; en un número semejante de operaciones hematemesis muy graves han sido observadas en cuatro casos más. Rossi y Scaloni dan como curaciones definitivas 55 por ciento y como fracasos que han necesitado volver a intervenir 9 por ciento. Para Sauerbruch las curaciones son de 25 por ciento. La última estadística ofrecida por Moynihan a la ciencia médica hacía descender curaciones a 45 por ciento y todos ellos están de acuerdo en que las mejorías se sostienen a favor de un prolongado tratamiento dietético y médico y que cualquier abandono de éstos hace reaparecer los trastornos y aún requieren nuevas intervenciones.

En la gastro-anastomosis, en las úlceras del duodeno no complicadas de hemorragia o de tendencia a la perforación con nicho voluminoso, incrustado o nó en los órganos vecinos, úlceras calcificadas, trastornos de infiltración periduodenal o de la encrucijada hepática; todos los cirujanos están de acuerdo en proscribirla puesto que no siendo úlcera simple y teniendo lesiones sobre las cuales no operará la derivación y debido a la gravedad de las lesiones; casi, repetimos, no hay cirujano que siga siendo fiel a la anastomosis si no es asociándola a otras operaciones (excisión, exclusión, etc.).

La misma indicación formal de la gastro-enteroanastomósis la estenosis del píloro va perdiendo campo en la cirugía moderna a favor de las pilorectomías o las piloroplastías. Si la causa de la estenosis es producida por tumor maligno y éste es operable, la pilorectomía sigue siendo la regla de conducta; más cuando el tumor maligno es inoperable, como paliativo es discutible la indicación de la yeyunostomía.

Por su poca mortalidad la gastro-enterostomósis (3 a 5 por ciento), facilidad de técnica y rapidez con que se puede ejecutar así como por la fácil anestesia que en ella se puede emplear (local), tiene su plena indicación como operación previa a la gastrectomía, a la exclusión, a la resección, etc., en enfermos profundamente desnutridos en los que una intervención mayor pudiera poner en peligro su vida; y como operación paliativa que permita al enfermo alimentarse, mejorar su estado general y elevar su potencial energético.

Las diversas gastrectomías si bien no están exentas de críticas y graves inconvenientes, tienen en cambio la enorme ventaja de ser operaciones que llevan como mira la curación del proceso patológico por la extirpación de la lesión, la modificación del quimismo gástrico y la recuperación quinética del órgano, lo que le llevará a su reintegración fisiológica; no desconocemos los peligros de las úlceras recidivantes aún en la misma boca anastomotica de las úlceras pépticas siempre menos frecuentes mientras má alta sea la resección gástrica; si la técnica y el post operatorio pueden ser un poco más laboriosos, ello depende de saber legir el procedimiento operatorio y la táctica pre y post quirurgica. Queda para nosotros como procedimiento de elección en las úlceras gastroduodenales la gastrectomía con la técnica que desde hace año usamos y que nos ha permitido abatir la mortalidad a cifras tan bajas como las de la gastroenterostomía, con la ventaja de lograr curaciones estables en enfermos seguidos por más de cinco años.

SUMARIO

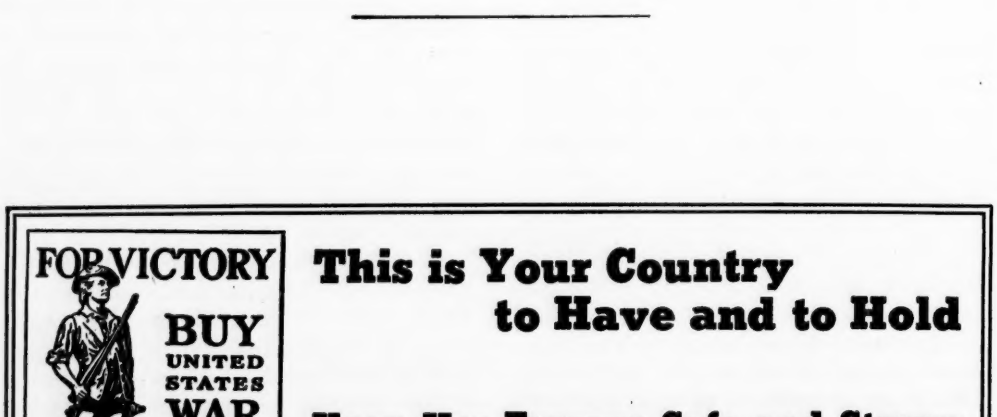
El autor después de pasar en revista diversas estadísticas personales y agenas así como de hacer la crítica de los diversos procedimientos quirúrgicos empleados para el tratamiento de las úlceras gastro duodenales y en especial de la gastro-entero-anastomosis y su fundamento fisio-patológico y de los resultados lejanos obtenidos con élla. Finalmente se pronuncia per la gastrectomía como procedimiento de elección e igualmente de las bases fisio-patológicas en que apoya su preferencia. Acompaña su trabajo con una película de gastrectomía hecha por el procedimiento Pólya II Asa Larga.

RÉSUMÉ

L'auteur aprés avoir passé en revue divetrses satistiques personelle et d'autres et ayant fait la critique des divers procédés chirurgicaux employés par le traitement des ulcéres gastroduodenaux et specialement la gastroenterostomose et sa base physio-patologique ainsi comme les résultats lointains obtenues par elle-méme. Se prononce finalement pour la gastrectomie comme procédé de choix et donne également les bases physio-patologiques que appuient cette preference. Le travail est accompagné d'un film de gastrectomie par le procéde de Pólya II Ase Long.

Выводы

Всевожможныя хирургическия процедуры в лечении гастродуоденальной язвы рассматриваются. Автор дает предпочтение гастректомии (типа Полпа) но физиопатологическим соображениям.



Nasal Mutilation in India and a New Rhinoplasty

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IN MY two journeys to India and Ceylon in the last 15 years, especially during my latest stay of over 16 months in India proper, I had an excellent opportunity to study more than 50 cases of the so-called Indian nasal mutilation.

I encountered these cases in the modernized streets of cities and dusty paths of villages, in the vicinities of decaded huts and marble palaces as well. I treated them and saw them treated by native Indian surgeons in old fashioned country hospitals and in many well equipped modern institutions. I noticed the consequences of this hideous relic of the past among the Singhales and Tamil population in the flat damp seashores and in the mountainous, jungle covered central Ceylon. I noticed the desperate features in males and females in the northern and central parts of India, on the west coast in the Poona and Bombay districts, in the out-skirts of the arid Rajputana territory, in the very heart of the mountain fortress of Sirohi state, the mysterious plateau of the Narvalli range at the famous Mt. Abu.

I also found cases widespread among the people of the chivalrous Jodhpur state where it is so frequent that it contributes the most dominating plastic surgical material for the hospitals in the cities of Jodhpur, Jaipur and Udaipur, but I also saw many cases in the streets of the vast capital of India, Delhi, and in the old pilgrim town of Benares, in many villages and cities of Ganges valley and, last but not least, in Calcutta, on the ghats of the revengeful goddess Kali.

I am sure that in all India there are more than 5,000 people mutilated, bereft of the most conspicuous part of the face, and if the attentive medical man does not see all of those unfortunate creatures, it is because more than half of them are women, who conceal their mutilation behind their purdah veils and because in some districts the dead mens' noses are already covered with flaps of skin. One is at first puzzled when met with such a horrible willful destruction of the countenance in a land of the meek, compassionate Buddha and Mahadeva and of the most merciful Allah, especially in the country of a non-violence preaching Gandhi. However, from a historic point of view, it is quite natural that the juridical custom of nasal and similar ostentative body mutilations, which were so common under the rules of barbaric and semi-barbaric conquerors and usurpers of the vast realms of India, had its roots in the primitive, rude mentalities of the belligerent Mongoloid invaders.

The average man in India, and also in other parts of the Asiatic continent, is in his habits, in the bad as well as the good ones, an extremely conservative creature. The ethical and esthetic ideas of higher cultured individuals can rarely interfere with the mentality of the masses, and when we take into account the elementary, revengeful accessorial qualities of the lesser divinities of the

Hindu religion and the fanatic fatalism of the old Moslem creed, the explanation of cases of lynch law or official punishment is much easier.

As already mentioned, the evil of mutilation is a relic of previous centuries, where the nose-cuts, ear-cuts and mutilation of sexual organs, etc., in the occidental and oriental countries, but especially in India, were officially established as a current punishment and were commonly practised. Moreover, mutilations were not looked upon as entirely inhuman, as the life and the personal freedom were left undisturbed. The purpose of such inflicted punishments was aimed more for their depressive, psychologic effects. Made miserable by spiritual tortures, connected with a mutilated face deprived of its most conspicuous part, the victim was condemned to live amongst his fellowmen until his death with features which were quite significant in their meaning. Besides, when such mutilation was inflicted on a young individual, it caused a decidedly asexual effect. No other mutilation of the body could equal it.

The nose, in the opinion of the ancients as well as modern society, is the determining point of an individual's external character, an ornament in women and besides this the expression of vigor and spiritual power in man. The war prisoners were mutilated by their victors in large numbers, an act capable of influencing the moral level of both sides in opposite directions. If we go back to those ancient times when the moral and physical sensitiveness in men and women was less than today, when instead of moving a person's pity for the unfortunate victim and with detestation toward the mutilator, a crippled one became a target for ridicule and malicious satisfaction, we might better understand the origin of Indian nasal multilations. In those times such official public punishments promoted respect for law and law makers, with admiration for the stronger one. From this fact, again, we can understand the universality and the fashion of such punishment.

As already mentioned, one has to consider that such "amputation" of the nose was practised during the entire Middle Ages, and in the early modern times, even in Christian Europe, as a personal revenge in private life and as a stigma by those contemporary juridical codes. This was the case in Italy, where it gave an impetus to the plastic repair done by Brocca, developed eventually by the famous Tagliacocci into a whole scientific surgical procedure.

The famous astronomer, Tycho De Brahe, lost his nose in a scuffle, and I saw very distinctly in his sculptured face in Prague's Teyn Church on his marble sarcofag the artificial prothesis he used to wear.

The married man in India, who becomes suspicious of the faithfulness of his wife, feels himself more or less justified by tradition in inflicting an everlasting stigma upon her face. Such cases are very frequent, especially in the northern part of India. I had the rare opportunity to see several cases just a few hours after such an "operation." In Mt. Abu's Adams Memorial Hospital I photographed the victim of a husband's jealousy (Fig. 1). The patient was a 20-year-old wife of a laborer residing not very far from the world famous Delvara Marble Temple. Her husband, a Bhil man of the dark Dravidic tribe spread all over Central India, cut off her nose and the upper lip, being assisted by some friends who held down the shrieking victim. He used a heavy jungle knife for his grotesque action, an implement usually necessary for cutting bamboo sticks in the surrounding jungles.

Further information revealed that the horrible mutilation was performed in a few seconds. The victim was surprised

Fig. 1. Mutilation of nose and upper lip.

at about four o'clock in the morning as she slept on the floor of her hut. The "corpus delicti," the parts of the nose and the whole upper lip, was found by the policeman on the roof of the neighbor's house, and was presented to me in a rag. All the soft parts of the nose were completely cut off. The skin in the vicinity of both sides of the cheek was denuded in all layers deep into the subcutaneous tissue. The whole apertura piriformis, the cartilaginous septum in cross-section, was visible and so were the conchæ inferiores and mediæ. The upper lip was lost almost completely, only two short flaps hanging loosely down on both corners of the mouth. The hemorrhage was small but became abundant after the surgical cleansing.

I was requested to attempt to suture back the cleansed end and pieces of nasal tissue submerged for half an hour in warm saline solution. As I expected, the third day after operation the fixed pieces sloughed and were removed. I think that even if I had had the opportunity to fix the amputated nose immediately after the damage had been done, not one patch of the tissue could have been saved, with the exception of the cartilages, which could have been stored under the skin to be used as framework in future rhinoplastic procedures. From various Indian stories we know that as soon as the whole nose of the victim was cut off it was thrown by the executioner into the fire. This additional performance was surely unnecessary.

The devastating injury in the Bhil girl eventually healed per secundum. Other cases that I had the opportunity to see were more or less healed already or, to some extent, repaired by local surgeons. Such a combined nose and lip amputation as I have just described, is not infrequent. In other cases only a part of the soft nasal tissue is chopped off, leaving more or less large remnants of alæ or the collumella. The lips in such cases are intact, a circumstance which facilitates to a high degree the subsequent reconstructive procedures.

During my stay in India and Ceylon, I rarely saw any damage done to the bony part of the nasal bridge, explained by the great resistance of nasal bones to the knife.

It is remarkable in such mutilations to what extent the adjacent tissue areas become atrophic after complete healing has taken place. The subcutaneous fat becomes partially resorbed during and after the healing process, and the facial muscles connected with the fascia of the neighborhood of the nose retract. For that reason the fossæ canini become deepened. Those morphologic changes must be borne in mind when reconstructive surgery is to be undertaken.

How was it with those often mentioned reconstructive operations performed in

the remote centuries by Indian surgeons? In many of the modern textbooks on plastic surgery we find an artistic facsimile reproduced, first published in the year 1798 in the old British Indian magazine *Gazette De Madras*. In this picture is a gravure of an Indian rhinoplasty, performed on a certain Cowasjee, a Mahratta, who lost his nose in addition to his hand in the services of the British Army in a war against the rebellious Sultan of Tippo. In a paragraph entitled "A Singular Operation" is written that such surgery has been practised "from time immemorial" in India. The picture itself shows the result of a subtotal rhinoplasty, after a typical Indian mutilation. Success is so complete that it hardly could be imitated by the most clever modern plastic surgeon.

Although I do not wish to belittle the apparent skillfulness of the responsible Maharetta Surgeon of Kumar in the Poona district, and do not doubt the genuine origin of rhinoplasty in the remotest times in India, I daresay that the painter of that accomplished rhinoplasty idealized the Master's work to the highest degree. We know that a rhinoplasty without an almost simultaneous added lining never leads to permanent esthetic or even physiologic results. I know that the construction of the lining was never practised in ancient India and at present is rarely done by Indian surgeons of the old school. The esthetic results achieved by those surgeons are the same as they were with European and American surgeons when the importance of lining had not yet been recognized.

In the previously mentioned clinical report we are told that the picture of the healed patient was painted by the artist ten months after the plastic operation. The nose already at that time must have had the clumsy shape of every other unlined rhinoplastic repair. The painter, however, was apparently obliged to make a sensation worthy of imitation by European surgeons of an operation with his artistic and artificial contribution to the medical world at that time.

During my stay in India, I saw such old-fashioned rhinoplasties without lining many times and all of them had the same esthetic and physiologic disadvantage. They were too short and made the expression of the face ridiculous, and by the shrinkage of the nostrils hampered the nasal breathing. For many Indian patients with very modest esthetic demands, those repairs are sufficient. After all, the shrinked tissue covers the still more hideous nasal defect. The great advantage of such procedure lies in the short hospitalization of the patient and in the easy surgery which, in view of the bad climatic circumstances in India, is a very desirable factor. I have used this classic Indian method as the first stage of my final rhinoplastic operation to demonstrate to my Indian colleagues the difference between the obsolete procedure of such subtotal unlined rhinoplasty and the American combined technic. Later, I performed in such cases of previous reconstructions an accomplished repair using the skin of those misshaped nasal substitutes for lining of the final reconstruction of the nose. Eventually, I developed my own technic which I afterwards practised in India with satisfactory results many times.

It will be of some interest to know how mildly sentenced by the British Indian legislation are such criminal nose and lip amputations. If it had been shown that the husband was justified in his suspicion of the unfaithfulness of his wife, he was lucky enough to get only six months' imprisonment. Marriage in India since time immemorial is looked upon as sacred until death and, therefore, the unfaithfulness of the wife is a great crime in the

eyes of everyone and she must be ostentatively punished by the offended husband or his relatives.

TECHNIC OF INDIAN RHINOPLASTY

Not being influenced by the recent American rhinoplastic literature and without the previous knowledge of Koenig's similar procedure (he used to provide support and lining by two flaps from the forehead in partial rhinoplasties), I fashioned my own method directed by the following needs.

Conditions of religious, cultural and economic nature in patients of British India, make it necessary to shorten the hospitalization and morbidity time of the patient as much as possible and, at the same time, to satisfy his modest esthetic and high ethical desires to the greatest possible extent. Sometimes the religious life and superstitious tradition interfere with the expectations of the surgeon. In an average Hindu from the highest to the lowest castes, the determination of the date on which the operation has to be performed depends on astrologic predictions. If the date is not favorable, *i.e.*, against his horoscopic prediction, the consent to the operation on the day chosen by the surgeon is in most cases refused.

Every major operation as, for instance, the removal of cartilage from the rib to provide a better support for the bridge and tip, gives another psychologic shock to the Indian patient, which must be avoided. I operated on a woman in Jodhpur's Purdah Hospital, who had a rather unsuccessful rhinoplasty performed by an Indian surgeon years earlier. She came to the hospital with a roughly shaped nose-like protuberance in her face, the nostrils being so narrow that she could scarcely breathe. I decided to make a better shaped nose with wide nostrils, using a rope flap from the arm. After the flap had been raised and shaped into a rope the patient remained in the hospital. The next day she complained that she expected an operation on her nose and not on her arm. We tried to explain that this was only a preliminary procedure. The stitches were removed on the eighth day, after perfect healing. The patient left the hospital suddenly the following day and never returned.

Being influenced by such leading motives I eventually came to the conviction that subtotal rhinoplasty in India is to be done with better prospects when performed according to the old Indian method, improved, of course, by an additional lining and support, both provided from the skin of the forehead. The removal of a composed flap from the forehead, *i.e.*, skin and bone tissues, is quite a taxing operation for a Hindu patient and, therefore, better avoided. An additional costal operation for cartilage support is not advisable in India for reasons already mentioned.

Fortunately, my Indian patients, especially the men, were all provided by nature with a high and broad forehead and with well developed bald patches in temporal regions (Fig. 2). Therefore, in most of my cases, I was able to take flaps from both sides of the forehead. I outlined a flap on the right side of the forehead in a calabas shaped design for support and lining purposes. After a delay of 10 days, I shifted this primary flap down over the defect. After 12 or 14 days its pedicle was cut and turned back to the forehead, the rest of the forehead defect being filled by free full thickness graft.

Such an operation was approximately the classical ancient Indian rhinoplasty with the same ornamental effects. About four weeks after the operation the transplant shrunk into a plump skin-covered piece of tissue, hard in consistency, with a firm scarred under-surface (Fig. 3).

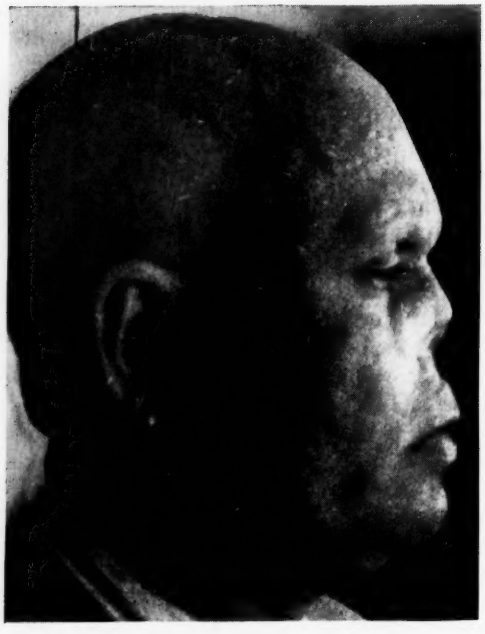

Fig. 2. Photograph before operation.

Fig. 3. Photograph after operation, showing transplant.

Over this I made a wax model of the future nose, covered it with tin foil, and stretching the tin foil, I fashioned a flap somewhat larger on the left half of the forehead presenting all regional parts of nose-bridge, alæ, tip and collumella. The collumella portion presented a strip of skin, one inch long and a quarter of an inch broad, being raised in the most lateral and distal temporal region. This strip was left attached at both ends. After a week's delay of the collumella portion, I raised the area which was to build up the bridge, tip and alæ of the final nose and separated the proximal end of the collumellar flap from the undersurface. After another ten day delay I cut the pedicular part of the secondary flap, raising again at the same time both previously delayed parts of the flap, but waiting another four or five days before separating the still attached distal end of the collumella portion.

After an elapse of another five days I eventually raised the entire flap and turned it downward to construct the nose (Fig. 4). For this purpose I prepared the first transplant to get a lining for the tip, alæ and collumella, dividing the upper skin-covered surface into three skin flaps. The lateral two served for the lining of the alæ, the medial one for the lining of the tip and collumella. The skin over the radix nasæ was partially removed, the margins of the still visible lower part of apertura pyriformis defect freshened up, both to be used as recipient areas for the secondary flap. Thus the roof of the lower part of cavum nasi was formed in its upper portion by the scarred undersurface of the first transplant, the lower part formed the three flaps outlined with skin and only two narrow portions between those three flaps were of one layer, to be epithelialized from the neighborhood. In some

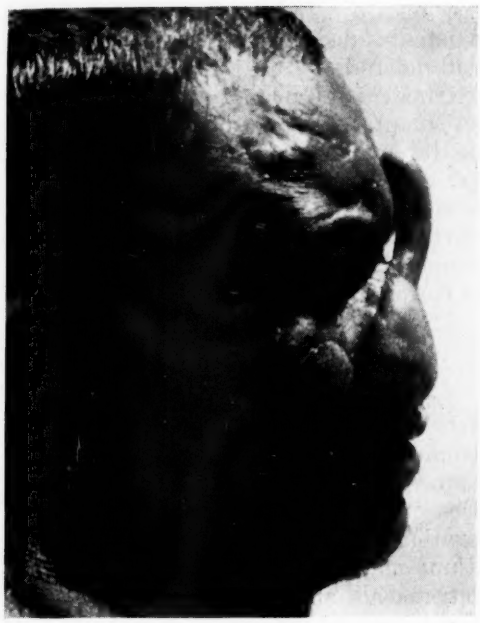

Fig. 4. Photograph taken five days after operation. Flap was raised and turned downward to construct nose.

Fig. 5. Photograph showing result of operation.

cases I delayed even those three lining flaps before the major surgery.

Usually, after two weeks, the raw surfaces were in firm contact and the cutting and returning of the pedicle into the donor area were performed by using a full thickness graft to cover the balance of the forehead defect. If this operation was not done simultaneously with the major surgery then the final modeling of the nose was spared for a later period. The result of my technic after the usual swelling of transplanted tissue vanished, was a natural looking nose with a distinct tip, protruding alæ and well adopted to the features of a Hindu face (Fig. 5). The lined, well-opened nostrils allowed full air passage. The whole rhinoplasty could be achieved in ten weeks' time without a great strain on the patient. The results obtained by my technic were good, especially in those cases where the nose repair already existed, performed by a local Indian technic (without lining) and where there was enough space on the forehead for the formation of the secondary flap.

The advantages of my technic are:

1. Avoidance of a continuous or interrupted hospitalization longer than ten weeks.

2. Omitting the costal cartilage operation, abhorrent to an Indian patient.

3. By careful delaying of all parts of the secondary flap, lessening the possibility of sloughing—a serious development for the pessimistic Indian patient and sometimes too optimistic surgeon.

SUMMARY

Nasal mutilation is a common act of revenge in many parts of British India since times immemorial. Plastic repair

was practiced thousands of years ago and up to the present time in a rather primitive way, without lining and with poor esthetic results, contrary to overestimated reports of many text-books on plastic surgery. The author's own method of rhinoplasty during his stay in India consisted of two stages, adjusted to the prevailing peculiarities of the mutilation, to the mentality of the Indian patient and to many other extrinsic factors. The first stage consisted of raising one forehead flap and attaching it in such a way as to provide both a lining and a support for the soft parts of the nose. In the second stage, another forehead flap was used to provide the outer cover and render the final shape of the nose.

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SUMARIO

La mutilación nasal es un acto de venganza muy común y ampliamente esparcido en muchas partes de la India Británica desde tiempo inmemorial. "Reparación Plástica" fué practicada desde hace millares de años y hasta el presente en una forma más o menos rústica, sin revestimiento de la mucosa y con resultados estéticos de mala calidad, contrario a los exagerados reportes de muchos textos de Cirujía Plástica. El método propio del autor durante su permanencia en la India consistía en dos secciones ajustadas a las peculiaridades existentes de la mutilación, a la mentalidad del Indio y a otros muchos factores extrinsicos. La primera sección consistía en levantar un colgajo o flap y adherirlo de tal manera que proporcionara a la vez revestimiento de la mucosa y apoyo a la punta de la nariz. En la segunda parte o sección, se usaba otro flap para proporcionar la cubierta exterior y dar la forma final a la nariz.

RÉSUMÉ

Les mutilations nasales constituent un acte de vengeance assez commun dans de nombreuses régions des Indes Britanniques depuis des temps immémoriaux. Des "réparations plastiques" ont été pratiquées depuis des milliers d'années d'une manitre primitive sans tapisserie intranasale et avec des résultats esthétiques peu satisfaisants, contrairement aux reports trop optimistes del livres de texte de chirurgie plastique. La méthode rhinoplastique de l'auteur pendant son séjour aux Indes consistait de deux opérations, dépendant des particularités de la mutilation, de la mentalité du patient et de nombreux facteurs extérieurs. La premiere opération consistait en levant un lambeau frontale et en l'attachant de facon à constituer en même temps une tapisserie interne et un support pour les parties molles du nez. Pendant la deuxième opération, un second lambeau frontale était employé pour provoir une couverture extérieure et pour donner une forme définitive au nez.

Выводы

Изуродование носа, как акт мести, практиковался нередко в Британской Индии. Пластичные операции, с целью востановления, проделывались со времен глубокой старости, конечно в грубом виде и с плохими эстетическими результатами, не смотря на метные отзывы во многих учебниках ортопедии. Метод

автора, во время его пребывания в Индии, состоял из двух ступеней. В первой выкраивался лоскуток с кожи лба, который он пришивал так, что-бы образовать подкладку и опору для мягких тканей. Вторая ступень состоит из вырезывания кожной лоскутки для формировки внешнего покрова и законченной формы органа.

ANNOUNCING THE FOURTH INTERNATIONAL ASSEMBLY OF THE INTERNATIONAL COLLEGE OF SURGEONS, IN CONJUNCTION WITH THE EIGHTH NATIONAL ASSEMBLY OF THE UNITED STATES CHAPTER, TO BE HELD AT THE WALDORF-ASTORIA HOTEL, NEW YORK CITY, JUNE 14 to 16, 1943.

Pursuant with the basic principles, objectives and ideals of the International College of Surgeons and in devotion to the war effort in defense of universal liberty, the International College of Surgeons dedicates its Fourth International Scientific Assembly to the presentation and discussion of papers, round table discussions and demonstrations of war surgery and a rehabilitation program. This meeting will be held in conjunction with the Eighth National Assembly of the United States Chapter of the College.

The solidarity in principles and ideologies which happily bind the Nations of the Western Hemisphere in the common effort and determination to maintain their traditional freedom, affords exceptional opportunity to the Chapters and to the Fellows and Representatives of the International College of Surgeons in the Americas to participate in the Assembly and its purposes. All Chapters of the United Nations have been invited to participate.

On the occasion of this outstanding military program, with the latest lessons in war surgery and rehabilitation in post-war conditions, a most cordial invitation is herewith extended to the Chapters, to the Fellows and Representatives of the International College of Surgeons, to military personnel in the United Nations, and to the profession of the United States of America and Canada.

It would be highly appreciated if the Fellows of your Chapter and the military personnel of your country would participate in the scientific program. Owing to the limited time at our disposal, titles of papers, demonstrations and round table discussions should be sent to the *Chairman of the Program Committee,* Dr. A. A. Berg, 10 East 73rd Street, New York, New York, by air mail or radiogram.

FRED H. ALBEE, M.D., *President,*
INTERNATIONAL COLLEGE OF SURGEONS

THOMAS A. SHALLOW, *President*
UNITED STATES CHAPTER OF THE
INTERNATIONAL COLLEGE OR SURGEONS

Surgery of Congenital Anomalies of the Female Genitalia

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CONGENITAL ABSENCE OF VAGINAL CANAL, UTERUS AND TUBES

WE ALL know that the female genital tract develops from two separate and distinct germinal structures called the Mullerian ducts. When the Mullerian ducts fail to develop there is a complete absence of the uterus, tubes and vagina, as exemplified by the case we are reporting here. Should the partition between the lowest part of the Mullerian ducts fail to absorb, there would be a double hymen; if the failure continued farther up, one would find a double vagina, and if still higher, a double uterine cavity with a partition between them. Again, when the middle of the Mullerian ducts fails to fuse there would be a partial or complete double uterus, depending on the degree of the fusion. Should the upper ends of the Mullerian ducts fail to develop, one would encounter either a complete absence of the tubes or only rudimentary tubes.

The combination of possible malformations is varied both as to the anatomic construction and the clinical manifestations. One of the common anomalies that is most amenable to surgery is the imperforate hymen.

The symptom that is quite often the first guide to the malformation is the disturbance of menstruation. Should the catamenia have failed to appear at the age of puberty, and no related symptoms have occurred, one has to suspect some congenital abnormality, such as an infantile uterus or an absence of the uterus, possibly even of the tubes and the vagina. When, however, the primitive amenorrhea is accompanied by the regular symptoms of menstruation, and even when these are aggravated, one must suspect some malformation of an obstructive nature, such as an imperforate hymen, or atresia of the vagina or of the cervical canal.

Some of the abnormalities may be corrected surgically, followed by a normal menstrual cycle, a normal sex life and prospective pregnancy. Other abnormalities are not amenable to surgical intervention, such as an infantile uterus or a complete absence of the vagina, which is generally accompanied by absence of the uterus and the tubes. In the latter case, one cannot expect much, except the possibility of establishing a vaginal canal. This may be justifiable in serving to brighten the marital outlook of the individual affected.

The absence of the vagina may not be discovered until time for the menses, failing which, a cause for the amenia is sought. The patient and the parents then become anxious regarding the future. They may be resigned to the existing condition until the prospect of matrimony presents itself, and the construction of a vaginal canal is indicated.

The related literature discusses the feasibility of the various procedures proposed. Most authorities agree that graft-

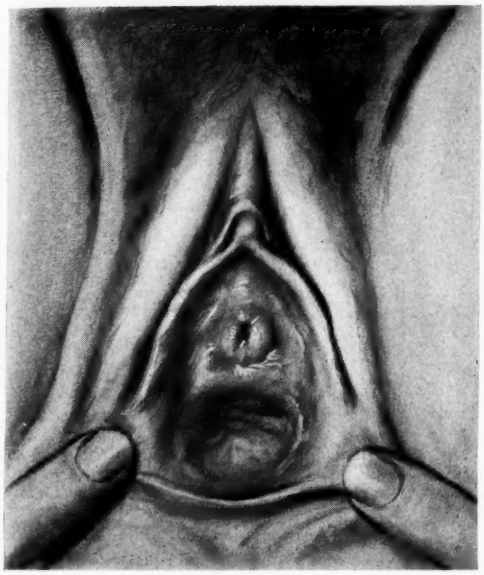

Fig. 1. Showing absence of vagina. The external genitalia appear normal up to the region of the hymen, behind which there is a complete absence of a vaginal canal.

ing skin from other parts of the body, or even from the adjoining labia and the skin of the thighs, is not usually satisfactory, because of the tendency of these tissues to become contracted, thus narrowing the vaginal canal.

Recently, development of a vaginal canal has been advocated with the use of graded sizes of glass test tubes, forced against the site of the hymen a few times daily, over a period of months, in order to produce and dilate a vaginal canal. The Baldwin operation for the construction of a vaginal canal from a section of intestine is the most satisfactory procedure, as the intestinal canal is lined with natural mucous membrane which has no tendency to contract. It also has a natural lubricating secretion. However, one must guard against the use of antiseptics, such as bichloride or other toxic drugs for cleansing of the new vaginal canal, as its lining, composed of intestinal mucosa, has greater power of absorption than the vaginal mucous membrane.

Fig. 2. The labiæ are spread apart, revealing a blind wall at the site of the hymen.

CASE REPORT

A girl, aged 29, was referred to us by her family physician with regard to the advisability of a plastic operation for the construction of a vaginal canal.

Family History.—The patient had had the ordinary diseases of childhood; history otherwise negative. The current complaint dated back to the age of 15, before she began to menstruate. At the age of 19, she was examined and the absence of the vagina was discovered. She was treated by packing the site of the vaginal canal with gauze, but treatment was abandoned after three months, as there were no results. The patient consulted her family physician because of pain in the right side of the abdomen. He advised surgery, with the hope of having a vaginal canal constructed, and she was referred for a plastic operation on August 2, 1941.

Physical Examination.—Adult female, well developed. Breasts normal in appearance.

Vaginal Examination.—Below the clitoris one could see the opening of the urethra in the normal location. Below the urethra, instead of a vaginal canal, there was a flat skin surface continuous with the labia minora laterally, and with the perineum posteriorly (Figs. 1 and 2).

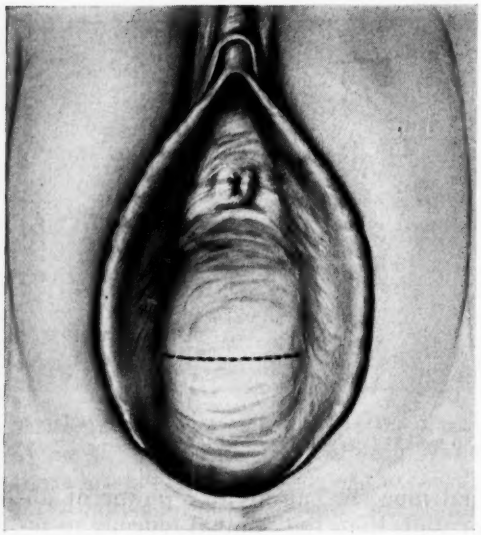

Fig. 3. Transverse incision. The first step of the operation is to make a transverse incision between the urethra and the perineal body and the tissues separated to form a canal up to the pelvic peritoneum.

On *rectal examination,* neither cervix nor body of uterus nor ovaries could be felt. After due consideration, we decided to attempt the construction of a vaginal canal with the aid of a loop of small intestine. We preferred the small intestine to the large, because danger of infection is less, and the small intestine is more accessible and freely movable.

Operation.—The patient was admitted to the hospital the day previous to operation. Laboratory examinations were negative. The operation was performed under spinal anesthesia (Fig. 3). A transverse incision, about one and one-half inches in length, was made midway between the urethra and the anterior border of the perineal body, at the supposed site of the vaginal orifice (Fig. 4). This incision extended through the skin and subcutaneous tissue down to the fascial plane between the posterior wall of the bladder and the anterior wall of the rectum. A long, blunt, curved scissors was then introduced through this incision between the bladder and the rectum for about three inches; the blades were spread wide open and pulled out in that position, creating a passage or canal. This space

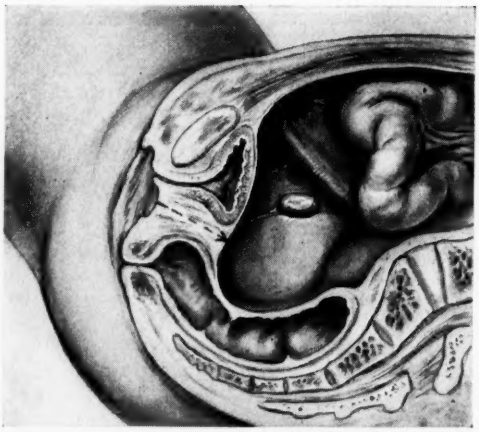

Fig. 4. Sagittal section, revealing the absence of a vaginal canal. The line indicates the tissues to be separated from the vestibule to the pelvic peritoneum.

was enlarged digitally for a depth of about four inches, reaching up to the vesicorectal peritoneum and admitting two fingers freely. A sponge stick was introduced all the way up to the roof of the canal and a two inch strip of iodoform gauze was tightly packed around the sponge stick to dilate the canal and hold the clamp in place (Fig. 5). The patient was then

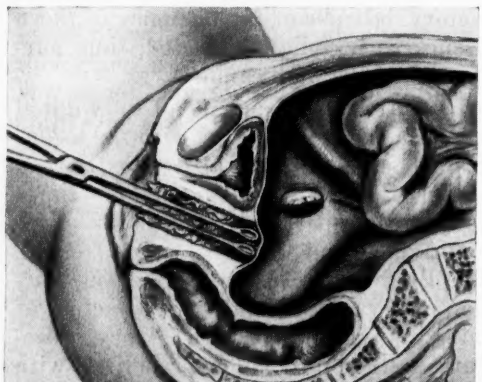

Fig. 5. The canal for the vagina has been made. Gauze is packed into this canal, surrounding the sponge stick with the blade held open. The rings of the blades are pushed against the peritoneum, which is later to be incised from above, for the passing of the loop of intestine.

Fig. 6. Interior view of pelvis, revealing complete absence of uterus and tubes. The right ovary appears normal, with a faint ovarian ligament leading to the central space between the bladder and the rectum. The left ovary is rudimentary, much smaller, and imbedded underneath the peritoneum. It also has a fine band leading to the supposed site of the uterus. A loop of the ileum, about 8 in. away from the ileocecal junction, and about 8 in. long, is to be resected and passed between the rectum and bladder, in the space created for the vaginal canal.

placed in the supine position for a laparotomy. A median subumbilical incision about four inches long was made and the peritoneum was opened.

There was a complete absence of the uterus (Fig. 6). The peritoneum extended smoothly from the bladder to the rectum, without the presence of any uterine structure or tubes.

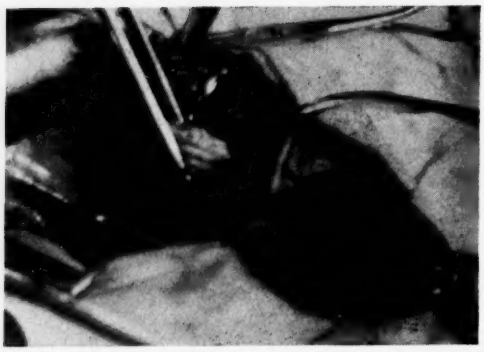

Fig. 7. Absence of uterus and tubes. The right ovary appears normal. The resected loop of ileum with its attached mesentery has a rubber catheter threaded to be used for traction.

The right ovary was found to be of about average size, white in color, corrugated, lying just at the brim of the pelvis, where the ureter crosses the right iliac artery. A rudimentary structure of an ovary about one-third the normal size was also found on the left side, in the same region. A semblance of an ovarian ligament could be traced from either ovary. The ileum near the ileocecal junction was inspected; the appendix was normal, the cecum was quite mobile; the mesentery of the small intestine, about one foot away from the ileocecal junction, was not any too long, but we deemed it long enough to allow for the loop of the ileum to be brought down for the formation of the vaginal canal.

A segment of small intestine, about eight inches long and ten inches from the ileocecal junction, was cut away between clamps from the rest of the intestine, leaving it attached by a pedicle of its mesentery (Figs. 7-9). The cut ends of the segment were closed with two layers of Lembert sutures and the cut ends of the remaining intestine were anastomosed end-to-end. A clamp was then passed through the mesentery near the middle of the loop of the small intestine. Through this little opening a rubber catheter was threaded to surround the intestine and to be used as a tractor to pull the loop through the artificial canal made for the vagina (Fig. 10).

An incision was then made in the peritoneum between the rectum and the bladder, while the sponge stick left in the artificial

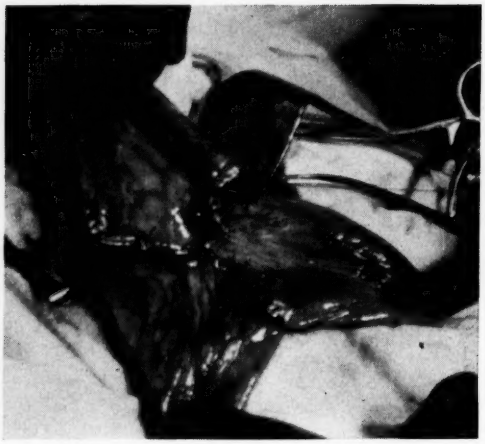

Fig. 8. Resected loop of intestine. The resected loop remains attached to its mesentery. The cut ends of the remaining intestine are anastomosed.

vaginal canal was forced high up from below by an assistant, so that its end protruded against the site of the cut peritoneum. An incision was made over the clamp through the fascia, while the ring blades of the clamp were

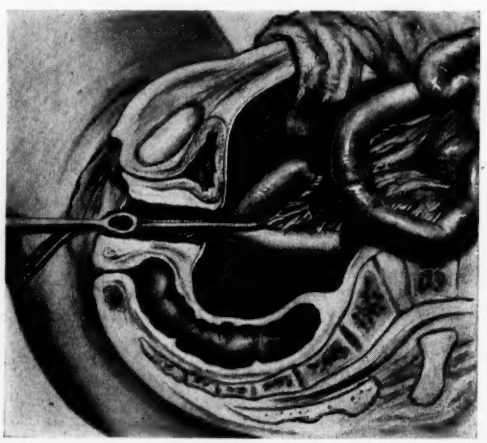

Fig. 9. Intestinal resection completed. The cut edges of the mesentery are approximated, and the cut ends of the intestine anastomosed. The ends of the resected loop of intestine are closed off, its mesenteric attachment is conserved. A fine rubber tube is passed through a hole in the mesentery to surround the loop of intestine. This is grasped by the ring clamp which was passed through the vaginal canal and into the pelvis.

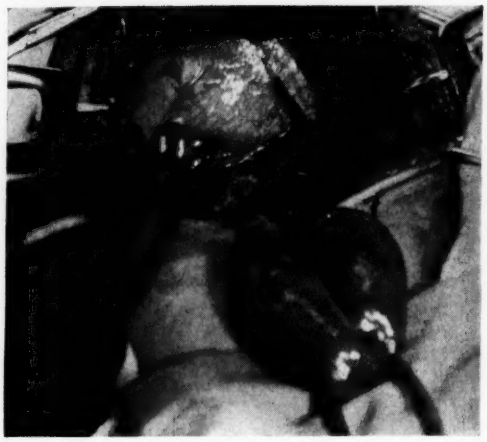

Fig. 10. Space for vaginal canal. The sponge forcepts was passed from below, ready to grasp the catheter to pull down the ileum.

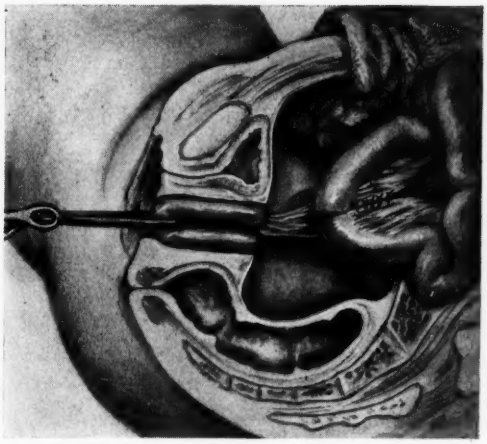

Fig. 12. Traction of the ring clamp pulls the loop of intestine down into the vaginal canal.

pushed up and opened wide, forcing the blades of the clamp into the peritoneal cavity (see Fig. 5). This opening was enlarged digitally, admitting three fingers. The two ends of the catheter were then grasped from below by the clamp held by the assistant, who also removed the packing from the canal to enable the catheter to be pulled down together with the loop of intestine, to the level of the perineum (Figs. 11 and 12). However, the mesentery of the loop was somewhat short so we had to leave the extreme ends of the loop above the canal. These ends were covered over by the peritoneum, which was raised above the ends of the intestine and sutured over with 00 chromic catgut (Fig. 13). The anastomosis having been completed, and the loop pulled through the newly formed canal, the abdominal incision was closed in layers without drainage.

The patient was then placed in the lithotomy position and the loop of intestine was found presenting at the proposed site of the vaginal orifice. With a few additional manipulations it was brought down below this level and opened longitudinally for about one inch,

Fig. 11. Passage of ileum into canal. The ileum is pulled half way down through the constructed canal. Note the moderate tension of its mesentery.

Fig. 13. The bend of the intestinal loop is incised and its margins are sutured to the surrounding surface.

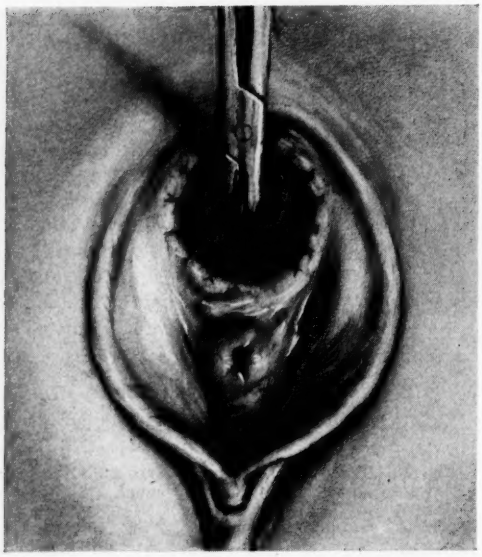

Fig. 14. The double-barreled vaginal canal. A clamp is applied to crush the partition.

along its antemesenteric border. This was followed by an escape of a few ounces of intestinal contents. The lumen of the bowel was then cleansed and the cut edges of the intestine sutured with interrupted 00 chromic catgut to the margin of the skin incision made at the beginning of the operation. About twelve such sutures were used (Figs. 13 and 14).

We now had a double-barreled canal, enabling one to insert a finger into each canal. Some strips of lubricated iodoform gauze were lightly packed into each barrel of the intestine and the dressing was applied.

The operation was performed under spinal anesthesia without the accessory aid of a general anesthetic. The post-operative course was uneventful, except for a slight rise in

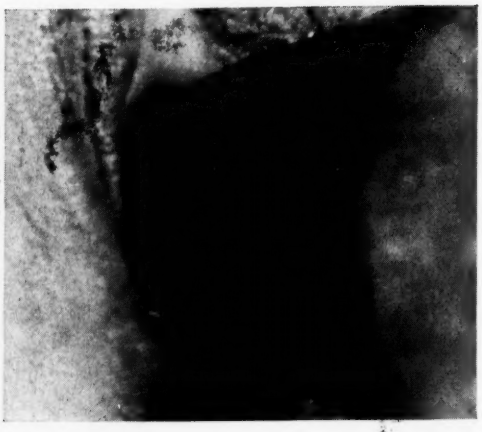

Fig. 16. Vaginal examination. Vaginal canal admits two fingers.

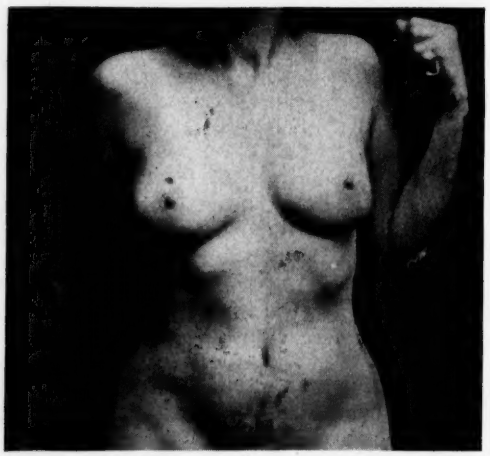

Fig. 15. Patient three weeks after operation.

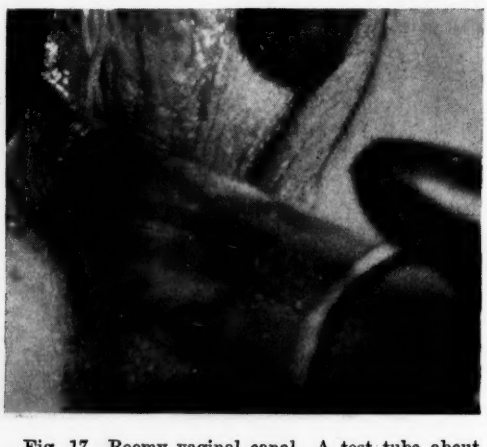

Fig. 17. Roomy vaginal canal. A test tube about one inch in diameter is passed into the vaginal canal for about three inches.

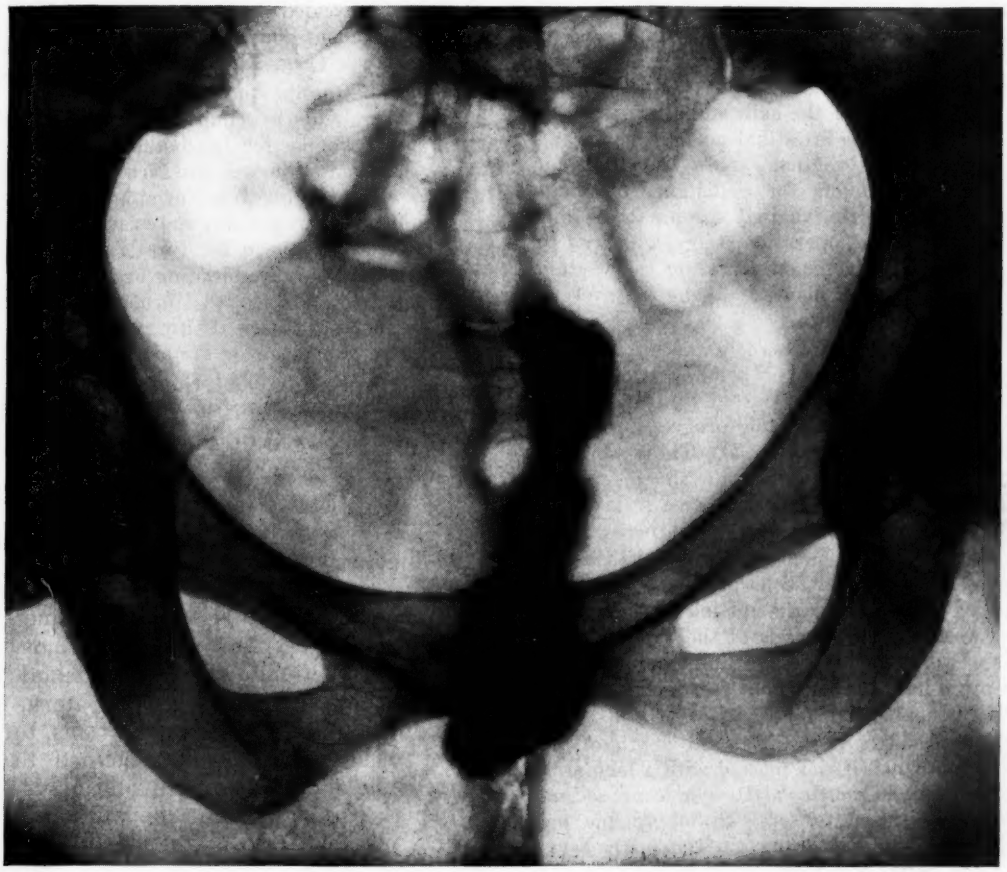

Fig. 18. Roentgenogram taken five weeks after operation. The vaginal canal is packed with strips of gauze soaked in 10 per cent solution of sodium iodide. The packing fills up the beginning of the vaginal canal and most of the left barrel. One can visualize the length of the vaginal canal to be about 4 in. long and about 1 in. in diameter.

temperature which was 101° on the third day, with some vomiting and abdominal distention. This was relieved by the Levine tube, a compound enema and prostigmine. Following the enema, the bowels moved spontaneously daily, with relief of distention and cessation of vomiting. The gauze packing was removed gradually on the second and third days. The patient had very little discomfort. Vaginal examination on the fourth day showed slight serosanguinous discharge on the dressing. The vaginal orifice readily admitted one finger. Digitally, one could feel the barrel to the left and the septum between both barrels. The finger could be introduced for a distance of three inches without reaching the end of the canal. The lining of the canal felt velvety smooth, characteristic of the lining of the intestine.

Abdominal sutures were removed on the tenth day. The wound healed by primary union (Fig. 15). Temperature, pulse and respiration were normal. The patient felt comfortable, but had a very slight vaginal discharge, just enough to stain a napkin during the day. On digital examination the double-barreled canal was found patent, each barrel admitting one finger for a distance of

three inches (Fig. 16). One could not feel the end of the barrel with the fingers, as it extended beyond the length of the finger.

Vaginal examination three weeks after operation showed the skin surface to be continuous with the intestinal mucous membrane now lining the vaginal canal. The canal admitted two fingers for a distance of about three inches. On vaginal examination four weeks after the operation, there appeared to be a good sphincter surrounding the vaginal opening, as is evidenced during an average vaginal examination.

The patient was instructed to use a pyrex test tube to maintain proper dilatation of the vaginal canal. It was started with a test tube one-half inch in diameter, progressing to one inch in diameter (Fig. 17). These were introduced for a distance of three to four inches with no discomfort, twice a day, and retained for about an hour at a time.

Five weeks after the operation the patient was readmitted to the hospital. She was prepared vaginally for the cutting of the septum between the two barrels of the vaginal canal (see Fig. 14). Since the first operation, the septum had receded about two inches up into the vaginal canal.

To visualize the width and depth of the vaginal canal, it was packed with a long strip of gauze soaked in a 10 per cent sodium iodide solution, to serve as an opaque medium for an X-ray examination. An X-ray of the pelvis was taken in an anteroposterior position. It revealed the length of the vaginal canal to be about four inches and its width about one inch (Fig. 18).

Under anesthesia, the partition between the two barrels of the canal was grasped between two clamps for a distance of two inches. The partition was cut across between the two clamps, thus transforming the two lumina into a single vaginal canal. The clamps were left *in situ* for two days. These were then removed. No bleeding ensued. The follow-up revealed a well formed vaginal canal of about the normal size and shape of that of an average female adult.

In the preceding case, the outstanding symptom that brought the congenital abnormality to our attention was the amenorrhea. Dysmenorrhea, likewise, may lead us to suspect some congenital abnormality of the internal genital tract.

Dysmenorrhea, or painful menstruation, has a variety of causes, ranging from those tangible forms where distinct pathology can explain the symptoms, such as obstruction of the cervical canal, inflammatory processes of the uterus and adnexa and neoplastic conditions, to those forms where one is inclined to blame some endocrine or neurogenic disturbance. No doubt, some congenital abnormalities may also be responsible for this disturbance.

SPONTANEOUS PERFORATION OF A DOUBLE UTERUS

This is the only case in our experience and to our knowledge, where there was a spontaneous perforation of a double uterus with the pathologic findings and clinical course as here outlined.

CASE REPORT

A girl, aged 22, gave the following history.

Family History.—As far back as she could remember, she was habitually constipated. She began to menstruate at the age of 13, every 28 days, lasting 4 to 5 days, with normal flow and without pain. A year later she began to suffer from severe lower abdominal pain and backache during her entire menstrual period. The pain would continue for about ten hours, with slight relief occasionally. This was a constant phenomena at every period. The pain was more marked on the right side. These symptoms recurred in the same form up to the age of 20. Since then, the pain would last for about two weeks continuously. The severity of the pain increased so greatly that the patient would become des-

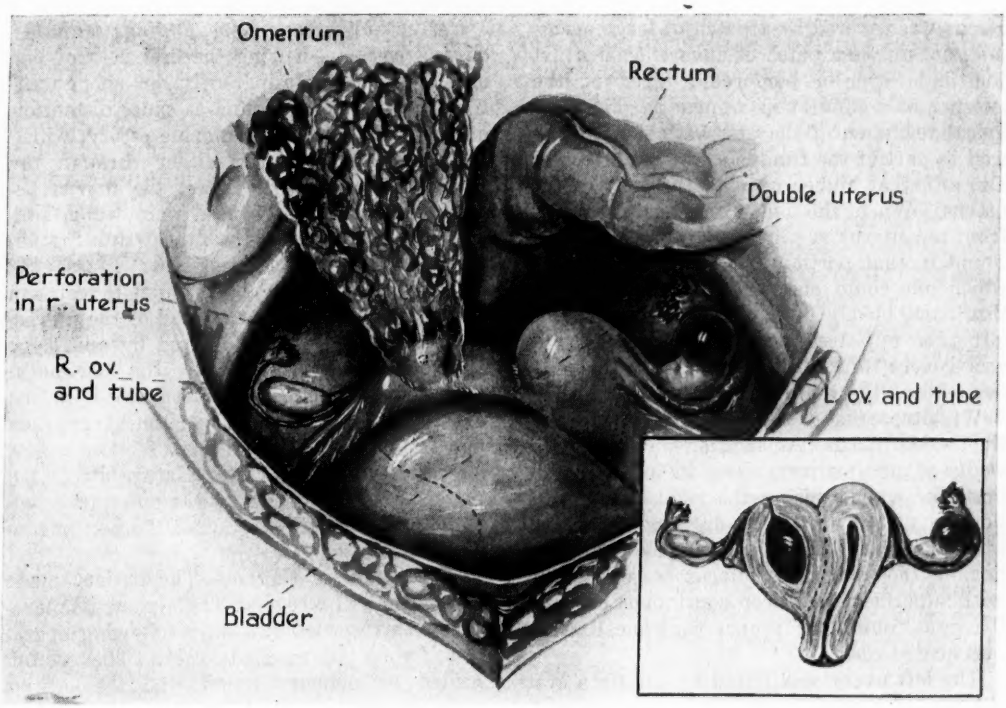

Fig. 19. Perforation of a double uterus. The right half of the double uterus is covered over by a patch of omentum, underneath which was found the perforation through which was escaping some old blood. The size and shape of the double uterus are indicated by the dotted lines, and by the cross section of the insert. The right uterus apparently has no external cervical opening. The only opening leading from its cavity is at its fundus which leads into the general peritoneal cavity, as seen on cross section. The right ovary is normal, the right tube is rudimentary, the left tube is normal, the left ovary contains a small cyst. The right half of the double uterus is removed as indicated by the dotted line on cross section. This was removed together with the rudimentary right tube. The cyst of the left ovary was removed, conserving its healthy portion.

perate in her attempt to relieve her suffering. She required sedatives in different forms to alleviate her pain.

The patient consulted me as to the advisability of performing an exploratory laparotomy and, if possible, to remove the cause. This I discouraged, because I felt there was nothing definite in the abdominal examination to justify such an exploration. I suggested that she come back at a later date, after resorting to some therapeutic measures, such as organotherapy, etc. Two years later the patient returned. In view of the fact that all efforts for relief had failed, an exploratory laparotomy was performed.

Physical Examination.—Adult female, fairly well developed, mammary glands quite large and pendulous, chest and abdomen negative.

Vaginal Examination.—The urethra was found to be high up along the vaginal canal. The vaginal opening barely admitted a rubber catheter.

Operation.—On July 18, 1941, under spinal anesthesia, a median subumbilical incision about four inches long was made. The peritoneal cavity was entered. A double uterus was found (Fig. 19).

The notch between the horns of the double uterus was about an inch deep and an inch wide, at its fundus. The right part of the double uterus was somewhat larger than the left, being about the size of a small tangerine. The anterior surface of the right part of the

uterus was covered by a patch of large omentum, not unlike a patch of adherent omentum one finds over a perforated ulcer of the stomach or a gangrenous appendix. The peritoneal reflection of the uterovesical pouch, as well as part of the fundus of the bladder, was also adherent higher up over the body of the uterus. When the omentum was separated from the uterus, a pin-point perforation was found in that portion of the uterus, through which one could observe the escape of some thin dark, bloody fluid. Both ovaries and the left tube appeared normal. The right tube was a mere thin solid cord, atrophic throughout, except the fimbrial end.

We proceeded to resect the right part of the double uterus. An incision was made in a wedge-shaped manner, along its anterior and posterior wall, excising the right half of the double uterus, without entering the left uterine cavity. The cut edges of the right border of the remaining uterus were sutured with superficial and deep continuous chromic 0 catgut, obtaining proper peritonealization and hemostasis.

The left ovary was found to contain a cyst the size of a small plum. This was removed, conserving two-thirds of the normal ovary. The anomalous right tube was then removed, leaving the right ovary intact. On completion, the remaining uterus appeared to be of normal size and shape, except that its right border had a straight line and no cornu, because of the resection.

The appendix was found to be quite thickened and filled with fecaliths. To rule out the appendix as a possible cause of the abdominal pain, an appendectomy was also performed. During the entire procedure one could observe that the lumen of the small intestine was about one-third the normal diameter. The abdomen was closed in layers.

Gross and Microscopic Findings.—The removed uterus, on section, showed a wall about one inch thick; its cavity had the capacity of one dram. It contained old blood and clots. We could not locate with a probe either a cervical canal or a cornual opening. The pathologic report of the removed right half of the double uterus revealed, on microscopic section, fibromuscular structures arranged in interlacing bundles; the endometrium was in the proliferative phase.

Correlation of operative findings with the clinical course.—During the first year of her menses there was apparently not enough activity in the endometrium to cause distention of the obstructed right uterine cavity, which had no external outlet either through the cornu or the cervix. Later, the uterus became distended and caused pain which subsided after a week as the fluid was being absorbed. During the last few years, the distention became so marked as to cause a perforation of the anterior wall of the uterus. This, most likely, was followed by an escape of some bloody fluid into the peritoneal cavity with each menstrual period, which caused a more marked peritoneal reaction and prolonged the severe pain for two weeks, simulating tubal abortion. Nature attempted to close the perforation by the patch of omentum and even the reflection of the peritoneum and bladder.

Post-operative Course.—The patient made an uneventful recovery. The highest temperature was recorded two days following operation, when it reached 101°. The wound healed by primary union, and the sutures were removed on the ninth day. The patient was out of bed and walking on the tenth day. On the eleventh day (July 29th), the patient was discharged from the hospital.

Her next menstrual period was due August 1st, but was delayed until August 18th. She had no pain whatsoever in the accustomed site (on the right side). She did have some slight discomfort over the left lower part of the abdomen, but nothing like the pain of the previous menstrual periods. She continued to have her regular menstrual flow without pain on August 19th, 20th and 21st. Following this period she felt perfectly normal, with no sign of any discomfort. On September 16th, the patient had her second regular menstrual period since the operation. There was complete absence of the pain and discomfort experienced during her periods previous to operation. Her menses have since continued to be normal.

SUMMARY

Congenital abnormalities of the female genitalia are discussed from the embryologic, anatomic and physiologic stand-

points, and also from the clinical, psychologic and surgical aspects. The importance of a careful search for congenital abnormalities of the internal genitalia, when disturbances of their function are encountered, is stressed. Surgical relief for symptoms caused by these abnormalities is discussed. Two rare anomalies are reported:

(1) Absence of a vaginal canal, uterus and tubes, and (2) spontaneous perforation of a double uterus.

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SUMARIO

Anormalias congenitas de los organos genitales se estudian desde un punto de vista embriologico, anatomico y fisiologico y tambien desde un aspecto clinico, psicologico y quirurgico. La importancia de una cuidadosa búsqueda de anomalias de los genitales internos, cuando se encuentran trastornas de su funcion, es señalada. Se señala la mejoria obtenida en los sintomas causados por estos anomalias mediante la cirujia. Se reportan dos raras anomalias: (1) La ansencia de vagina, utero y trompas y (2) la espontanea perforacion de un utero doble.

RÉSUMÉ

Les anormalités congénitales des organes génitaux féminins sont étudiées du point de vue embryologique, anatomique et physiologique. L'auteur discute aussi les aspects cliniques, psycholoques et chirurgicoux. Il recommande un examen soigné afin d'établir ou d'exclure la presence d'anormalités congénitales des organes genitaux internes dans les cas de derangements de fonctions de ces organes. Les procédés opératoires employés dans les cas de cette nature sont discutés. Deux cas d'anormalités sont rapportés absence du vagin de l'utérus et de la trompe, perforation spontanée d'un utérus double.

Выводы

Урожденная уродливость половых органов описывается с эмбриологического, анатомического в физиологического пункта, причем автор трактует об ее клинической, психологической и хирургической характеристике. Подчеркивает необходимость исследовать наличие урожденной уродливости внутренних половых органов при присутствии неправильных функций. Автор описывает операции для облегчения симптомов и описывает две редкия аномалии: (1) неналичие влагительного канала, матки и труб; (2) спонтанная перфорация двойной матки.

Nomenclatura y Clasificacion De Los Canceres

(Nomenclature and Classification of Carcinoma)

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SUMMARY

A new classification is presented, based upon embryologic, histologic and clinical findings, which definitely simplifies the nomenclature. The correct appreciation of the blastomas is stressed.

ES BIEN conocida la gran importancia del problema de los cancerosos en nuestro medio y dos hechos primordiales hacen necesario su estudio: el gran número de cancerosos existentes y la necesidad de contar con número suficiente de centros de diagnóstico y tratamiento con todos los medios para efectuar labor oportuna y apropiada.

El Departamento de Salubridad Pública de México ha establecido oficialmente la Campaña contra el Cáncer y ha invitade a médicos y público a colaborar con él en esta labor. En la actualidad ya se ha remitido a los profesionistas un folleto explicativo de la campaña y además se está tratando de fundar el primer dispensario anticanceroso con objeto de hacer llegar al público los beneficios de la campaña. Los señores doctores cuentan desde luego con servicio de examen histológico de todos los neoplasmas y fragmentos de neoplasma que remitan junte con la historía clínica correspondiente; para estas historias se les remiten esqueletos. Además se ha comenzado a enviarles folletos sobre asuntos de cancerología y se está efectuando labor de intercambio y cooperación.

Seguramente que para todos es evidente la conveniencia de contar con terminología y clasificación apropiada de los neoplasmas y este trabajo se refiere precisamente a procurar denominar y clasificar los neoplasmas en forma clara y precisa.

La clasificación y nomenclatura de los neoplasmas que presentamos está basado en los estudios embriológicos de Ochoterena, en los trabajos histológicos de Benitez Soto y en las observaciones clínicas de Zuckermann.

Desde luego es interesante señalar que a los neoplasmas histológicamente benignos los denominamos "omas" y están caracterizados por su limitación topográfica, es decir, se desarrollan en un sitio sin emigrar de él y aún presentan en algún caso cápsula limitante o por lo menos plano de separación entre el tumor y el tejido sano.

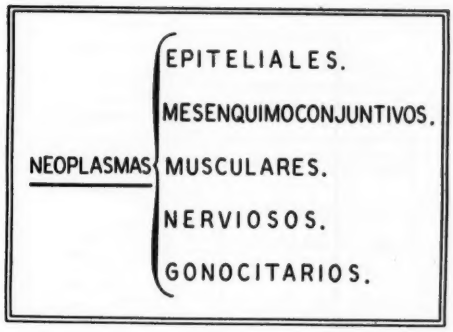
Las reproducciones celulares son raras, es decir, que su crecimiento efectuándose en forma normal, aunque en mayor grado, no permite encontrar en las preparaciones muchas figuras mitósicas sino por el contrario se observan estas raramente, además. No existen atipias celulares ni monstruosidades y el tejido que los constituye es muy semejante al que les ha dado origen.

Los "blastomas," neoplasmas histológicamente malignos, se caracterizan por su no limitación, es decir, que las celdil-

las blastoma tosas emigran en los intersticios celulares invadiendo los tejidos cercanos, no existiendo plano de separación entre tumor y tejidos sanos y mucho menos cápsula y además emigran a sitios lejanos por las vias linfática y sanguínea. Existen frecuentes reproducciones celulares que se hacen ostensibles en los cortes histológicos. Además las celdillas blastomatosas aún pareciendose a los del tejido que les dió origen presenta monstruosidades y atipias celulares que marcan claras diferencias entre el tejido normal y el canceroso.

Los tejidos normales se clasifican en cinco sistemas fundamentales: epitelial, mesenquimoconjuntivo, muscular, nervioso y gonocitario. Las neoplasias de cada uno de estos sistemas constituyen los cinco grupos fundamentales de tumores.

Los neoplasmas del tejido epitelial se denominan epiteliomas si son histológicamente benignos y epitelioblastomas si son histológicamente malignos y según su origen se dividen en: de revestimiento mucoso o cutaneo y glandulares. Además existen los adamantinomas y adamantinoblastomas derivados de la lámina dentaria que forma los botones dentarios u órganos adamantinos, que es de origen epitelial; se constituyen así esa categoría especial de neoplasmas de las mandíbulas.



Los neoplasmas derivados del sistema mesénquimoconjuntivo pueden ser de los siguientes tejidos: conjuntivo fundamental, mucoso, adiposo, cartilaginoso, óseo, melánico, linfoide, mieloide, endotelial hemático, endotelial infático y endotelial seroso y así existen:

Fibromas y fibroblastomas.

Mixomas y mixoblastomas.

Lipomas (el tejido adiposo no da lugar a la formación de blastomas).

Condromas y condroblastomas.

Osteomas y osteoblastomas.

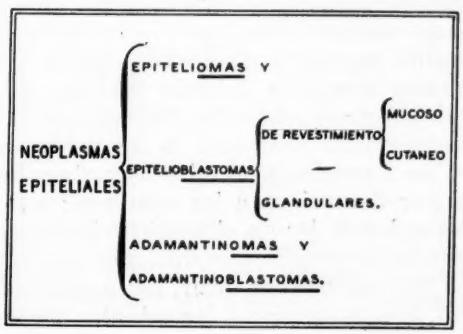
Melanoblastomas el tejido melánico no da lugar a la formación de omas).

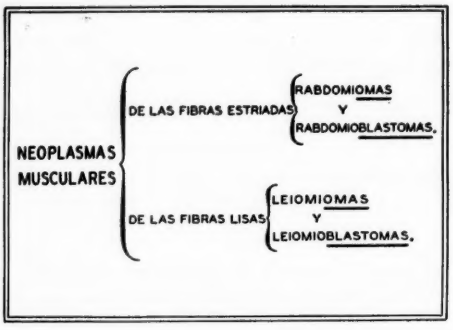
Linfomas y linfoblastomas.

Mielomas y mieloblastomas.

Hemangioendoteliomas y hemangioendotelioblastomas.

Linfangioendoteliomas y linfangioendotelioblastomas.





Seroendoteliomas y seroendotelioblastomas.

En el tejido conjuntivo y sus afines pueden observarse como en otros tejidos o con otros tejidos, neoplasmas mixtos, constituídos por dos o más tejidos en crecimiento anormal: osteocondromas, osteocondro-blastomas, fibro-mixomas, fibro-epitelioblastomas, etc.

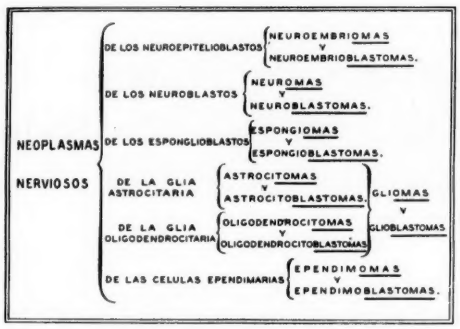
Los neoplasmas derivados del sistema muscular, si son del tejido muscular liso, son leiomiomas y leiomioblastomas, y si son derivados de las fibras musculares estriadas, son rabdomiomas y rabdomioblastomas.

Los neoplasmas del sistema nervioso se clasifican de acuerdo con el origen embriológico de las celdillas de donde se derivan. Estudiando el desarrollo del tejido nervioso se sabe que éste deriva de la capa ectodérmica y que a las celdillas germinativas del tejido nervioso se les denomina neuroepitelioblastos. Estos neuroepitelioblastos, al desarrollarse pueden hacerlo hacia celdillas que van a formar neuronas o hacia celdillas que van a formar los tejidos de sostén de las mencionadas neuronas. A los primeros se les denomina neuroblastos y al evolucionar dan origen a las neuronas; a los segundos se les da el nombre de espongioblastos y pueden evolucionar a su vez en dos sentidos, es decir, hacia glioblastos, que dan origen a las celdillas gliales a gliocitos, y a ependimoblastos, que dan origen a las celdillas ependimarias o ependimocitos.

Tendríamos a través de la evolución embriológica del sistema nervioso: neuroepitelioblastos, neuroblastos y neuronas, espongioblastos, glioblastos y gliocitos, ependimoblastos y ependimocitos.

Las neuronas no son capaces de dar origen a tumores dado que carecen de función reproductora, pero los neuroblastos que les preceden sí son capaces de dar origen a neoplasias. Tomando en cuenta lo antes anotado, tendremos las diversas categorías de neoplasias derivadas del tejido nervioso: de los neuroepitelioblastos derivan los neuroembriomas y neuroembrioblastomas.

De los neuroblastos derivan los neuromas y neuroblastomas; los espongioblastos dan origen a la formación de espongiomas y espongioblastomas. Las celdillas gliales, glioblastos y gliocitos, constituyen estructuralmente dos clases de glía: la astrocitaria y la oligodendrocitaria, y así tendremos dos categorías de neoplasmas derivados: los astrocitomas y astrocitoblastomas, y los oligodendrocitomas y oligodendrocitoblastomas, formando estas cuatre categorías de tumores parte del grupo de gliomas y glioblastomas. De los ependimoblastos y ependimocitos derivan los ependimomas y ependimoblastomas.



No debe olvidarse que los neuromas y neuroblastomas, gliomas y glioblastomas pueden ser centrales, es decir, localizadas en el eje cerebroespinal, o periféricas, localizados en el sistema nervioso periférico. Los neoplasmas derivados del sistema gonocitario, reciben el nombre genérico de gonocitomas y gonocitoblastomas. El sistema gonocitario comprende, el tejido espermatogenético, el ovogenético y el intersticial. Las neoplasias derivadas del tejido espermatogenético si son histológicamente benignas reciben el nombre de espermatoci tomas, y si son malignas, el de espermatocitoblastomas (seminoblastomas, de la terminología antigua).

Los derivados del tejido intersticial, casi siempre son histológicamente benignos, y se denominan intersticiomas. Las neoplasias ovogenéticas, según su origen, se denominan pflugeriomas y pflugerioblastomas, si son derivadas de los tejidos de Pfluger; foliculomas y foliculoblastomas si son derivadas de los folículos; luteomas y luteoblastomas si son derivadas de cuerpos amarillos.

Aparte debemos considerar los neoplasmas desarrollados por transformación de tejidos embrionarios o placentarios que pueden ser: embriomas y embrioblastomas, placentomas y placentoblastomas (el llamado corio-epitelioblastoma).

En presencia de alguna variedad de oma o blastoma que parezca no estar incluída en la clasificación anotada, deberá estudiarse su estructura histológica y su origen embrionario y determinar entonces a cuál sistema tisular pertenece o si es embrionario.

SUMARIO

La clasificación antes anotada, basada en hechos embriológicos, histológicos y clínicos, simplifica indudablemente la nomenclatura y correcta apreciación de los blastomas y tiene por objeto aclarar problema tan difícil y uniformar la denominación y la colocación en patología y en clínica de los tumores.

RÉSUMÉ

L'auteur présente une nouvelle classification basée sur les données embryologiques, histologiques et clinique. Cette classification simplifie la nomenclature. Une appréciation exacte des blastomes est préconisée.

Выводы

Автор предлачает новую классификацию основанную на эмбриологических, гистологических и клинических данных. Она облегчает номенклатуру. Подчеркивается правильная оценка бластомы.

Closure of Incised and Lacerated Skin Wounds with Report of Case of Closure of Avulsion of the Scalp*

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CLEAN cut incisions of the skin or wounds accidentally made with sharp edged instruments produce gaping from the elasticity or contractility of the tissue divided. Skin, which is the most elastic tissue in the body, retracts far more than other tissues, and transverse wounds of the skin gape more than those which are longitudinal. Exceptions to the rule are noticed in tissues of wounds of the palm of the hand and the sole of the foot. These never gape on division.

Capillary bleeding after an incised wound rapidly ceases by (a) natural processes; (b) by bolstered coaptation of the skin edges, and (c) by compression. Subdermic bleeding from wounded arteries or veins require ligation of the vessels.

An incised cut which has passed through skin, subcutaneous fat and fascia will gape, and after a lapse of a short time this gaping will increase so that the subcutaneous fat appears pressed out of its position, as if the divided edges of the true skin were retracting from it and becoming everted. If the edges of the wound have been stitched together and the parts are swollen and edematous, there is tension upon the wound with constriction of the tissues and a disposition to separate and gape. In a healthy person these local phenomena subside and disappear in a few days.

Healthy skin tissues that are highly vascular undergo rapid and perfect repair when incised. In the margin of the wound the blood coagulates to the nearest anastomosis, and the capillary vessels dilate by the increased pressure to which they have been subjected. The coagula become reabsorbed. The capillary meshes on the one side join, by loops projected through the new tissue, similar meshes of the opposite side with resulting primary union.

To promote primary union, the wound is carefully cleansed, bleeding vessels are ligated, and the divided edges coaptated. The coaptation of the divided surfaces is carried out in superficial wounds by means of sutures, adhesive plaster, or Michel clips. Suture material used for superficial wounds is silk, linen, horsehair, silk-worm gut, wire, pins. Interrupted or continuous suture is the usual practice.

When the edges of the part are ensnared and the tissues constricted, strangulation and irritation of the wound produces inflammation.

Surface bacteria introduced by the piercing needle into the subdermic area find a suitable media for growth in the damaged weakened tissue which sometimes results in a stitch abscess.

To avoid such complications, surgeons now are more frequently resorting to metal clips for skin wounds. The Michel clip is easily applied with a special in-

*Read before the Brooklyn Surgical Society and Academy of Medicine, Brooklyn, N. Y., November 7, 1940.

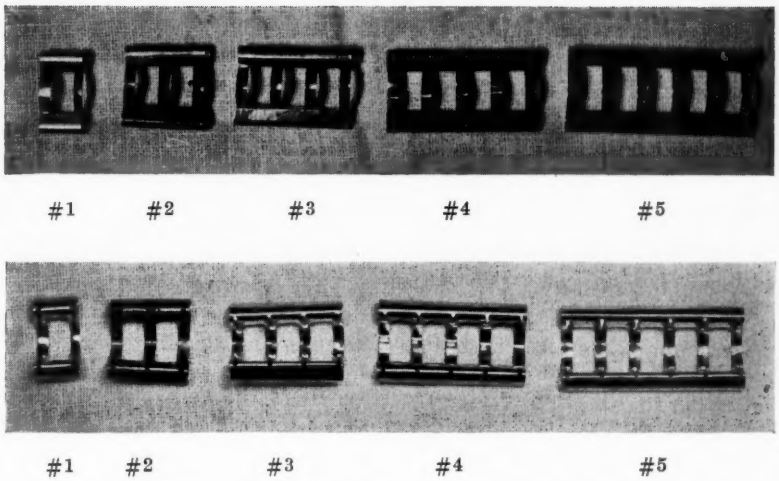

Fig. 1.(A) Anterior view of wound clips. (B) Posterior view.

strument, but causes pain in its removal. It often necessitates digging into the skin before it is lifted out with the instrument.

To overcome such discomfort, I have devised a multiple clip with bolsters which can be applied to the severed edges of the skin on any part of the body —head, trunk or limbs—anteriorly or posteriorly. These clips can be quickly fastened to the edges of the wound with the hand. Bolsters in the clips have special value by holding the edges close together and preventing capillary oozing.

Pressure by the bolsters on the deeper tissues obliterates dead space from forming so that no fluid or blood can collect. Fine spiculæ connect the clips to the superficial layer of the skin. No suture material is used. Infection is not carried into the subdermic space. Stitch abscess is avoided. Primary union invariably follows. In adiposed patients retention sutures are inserted before applying the clamps.

At the Unity Hospital during the past two years, these clips were applied on incised and lacerated skin of over 800 patients with excellent results. The clips stay on the wound six to eight days. On their removal the scar is fine and in many cases like a hair-line. They are removed painlessly, often as a surprise to the patient. The bolster bars are hollow, so that by inserting a small hemostat in the canal at each end and spreading the clamps laterally about a quarter of an inch, the spiculæ unfasten from the skin and the clips fall off. The clips are made of nickelsilver, are light, smooth, thin and pliable. They are sterilized the same as other instruments and can be used again many times. They can also be used as towel clips instead of towel instruments.

DESCRIPTION

The multiple metal clips consist of two lateral triangular hollow bars which serve as bolsters on each side of the wound and extend parallel to the edges thereof. Sharp, small spiculæ are projecting from the bolster bars which enter the superficial layer of the skin, and when pressed together with the fingers or an instrument, they completely coap-

tate the wound without injurying the tissues.

The lateral bars or levers are interconnected with soft, bendable metal webs, one-half inch apart. The clip is left in this position holding tightly the edges of the skin and tissues until the wound is healed.

Several of the clips may be placed one next to the other, leaving one-half inch interspace between them, to cover any length of wound. The clips can be applied on the scalp, neck, chest, abdomen, perineum and limbs where coaptation of the skin wound is necessary (Fig. 1).

How to apply the clips.—At interval spaces apply the clips by lifting the two skin edges to perfect alignment, with sharp mouse-tooth thumb forceps or Allison clamps. Fasten the multiple clips with thumb and index finger by placing the bolsters on each side of the edge of the wound. By pressing the bolsters together coaptation is made. The bolsters obliterate the dead space and prevent capillary oozing.

Removal of clips.—Gently press with the thumb on the center base while unfastening the lateral bolsters with the other fingers, first on one side and then on the other. When the use of instruments is preferred, insert an open small artery clamp into the canals of the bolsters at each end and slightly stretch the clip to unloosen its hold on the skin.

CASE REPORT

On May 21, 1940, a woman, aged 25, married, white, was brought by ambulance to Unity Hospital. She stated that while sitting in the rear seat of an automobile in motion, it collided with a truck. During the impact she was thrown forward over the front seat between the chauffeur and his adjoining passenger. Her forehead struck the lower border of the dashboard and tore the scalp from the skull, from the right temple to the left temple backwards, and there remained resting on the nape of the neck. The periosteum was not removed. She had bled profusely and was in a state of shock on admission; 1500 units of anti-tetanus serum were injected.

Laboratory Reports.—Blood: R.B.C. 3,770,000; W.B.C. 14,400; Hb. 76 (Sahli).

Differential: Polymorphonuclear leukocytes 88; Lymphocytes 12.

Urine: Negative, except for a slight trace of albumen.

Examination.—The patient is dazed. She responds to questions fairly well but sluggishly. The edges of the lacerated scalp are bleeding. The skull is exposed from the forehead to the occipital part. No anesthesia given.

Repair.—The hair of the scalp was shaved. The wound was washed copiously with saline solution. The scalp was lifted up and brought over the skull. The torn edges were coaptated, and nine bolster clips applied. No drainage. Voluminous plain gauze dressing applied. During the first week the temperature ranged from 98 on admission to 100° F. After that time it was normal. Pulse and respiration were normal.

The clips were removed on the seventh day. The wound showed primary union. On the twenty-fifth day (June 15), the patient was discharged in good condition (Fig. 2).

In 1838, Downs first recorded a case of avulsion of the scalp. Since then surgeons expect such cases resulting from accidental injury in factories (cases of "Industrial Scalping" so-called). Young women working in shops are victims when their hair becomes entangled in a revolving shaft which pulls the scalp from the head.

Davis collected 92 reports from the literature of complete avulsion of the scalp, of which 81 were caused by machinery. Eighty were women and one a Chinaman with a queue.

The integument usually tears where it is thinnest, at the level of the eyebrows or even from the eyelids themselves, the direction of force being exerted from before backwards, and the superciliary

Fig. 2. Avulsion of scalp, showing primary union after removal of clips.

ridges acting as wedges which caused the cleavage.

Generally, the entire scalp to the level of the ears is torn away (one or both ears are lost in some cases). The defect usually ceases at the hair line of the neck. Cushing states that it is apt to run down on to the center of the neck in a "V" shape. The scalp separates from the temporal muscles, leaving them intact.

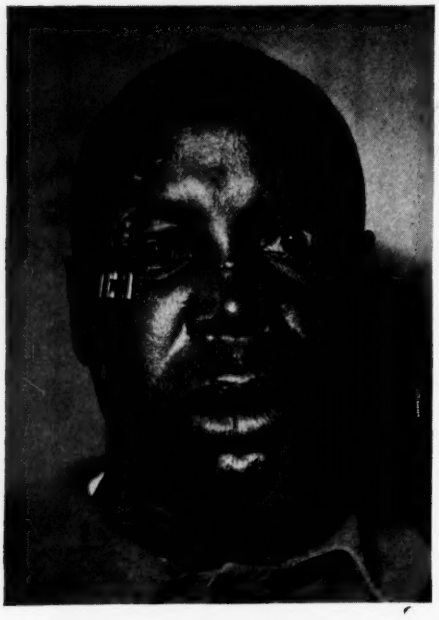

Fig. 3. Stab wound of face with clips in place.

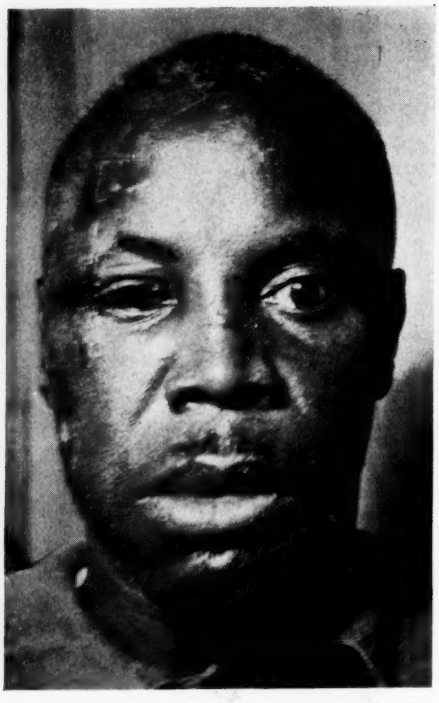

Fig. 4. The same patient after removal of clips.

The bellies of the occipito-frontalis are generally taken with it.

Hemorrhage is profuse, often requiring ligation of the blood vessels. Shock is profound. Death may occur from hemorrhage or other injuries. Primary pain is moderate, but later may be excruciating.

In complete avulsion, stitching the avulsed scalp back over the defect results in failure. Cutting the scalp into strips and grafting it as such was also reported as failure. Plastic sliding operations are reported where a flap from the neck or side of the face with pedicle attached has been used to cover the brow or a part of the cranium.

Where avulsion was not complete, but the vertex was denuded, four concentric flaps from the edges of the scalp were cut, slit across the wound and united, making a cross of scalp, the defects between the arms of which were grafted in other ways. Davis used whole thickness grafts after the method of Wolfe-Krause, with complete success. The greatest number of wounds have been healed by the Thiersh method of autogenous grafts with the best results.

In three cases in conjunction with Thiersh grafts, amniotic membrane, both from the sac and the cord near the fetus, was used (method of Stern) to cover small granulating areas. Two of them took, the third sloughed (Figs. 3-6).

SUMMARY

The object of the multiple wound clips is to eliminate the use of stitches for uniting the incised or lacerated skin and to hold together tightly and firmly the

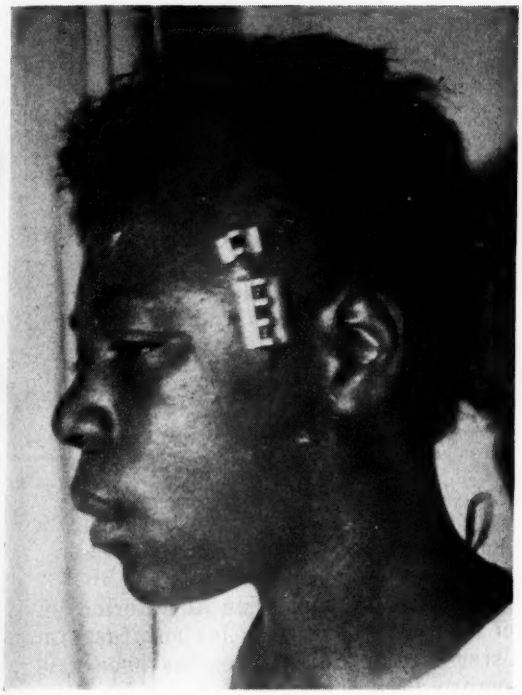

Fig. 5. Laceration of temple.

torn or cut edges until the wound is healed. The construction of the wound clips prevents strangulation of the tissues, obliterates gaping or dead spaces, and avoids capillary bleeding. Needless suture material is entirely eliminated, and stitches, by their absence, will not cut out. Infection or stitch abscess, from part of a stitch left in the wound, is prevented.

The wound clips facilitate quick closing of the wound, thereby lessening the time period during which the patient is under anesthesia. Pain and mental anguish are eliminated during the removal of the stitches. Sterilization of the metal clips is less apt to bring stitch infection than suture material, which may carry skin bacteria into the deeper tissues. The blood vessels are not punctured, and

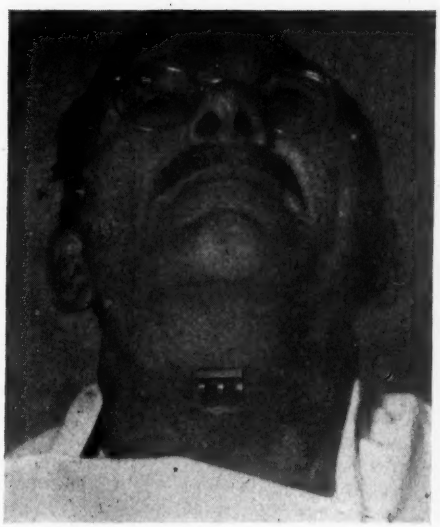

Fig. 6. Closure of skin after removal of bronchial cyst.

clean raw edges of a wound neatly approximated and firmly held together with bolstered clips result in primary union (Figs. 7-9).

Drains are no barriers to the clips, and no skin suture material is necessary. Leukocytic reaction is avoided by the use of the clips, and they eliminate the possibility of foreign material being left in

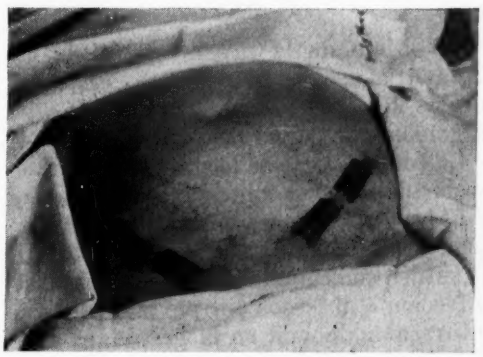

Fig. 7. Skin closure after bilateral hernia operation.

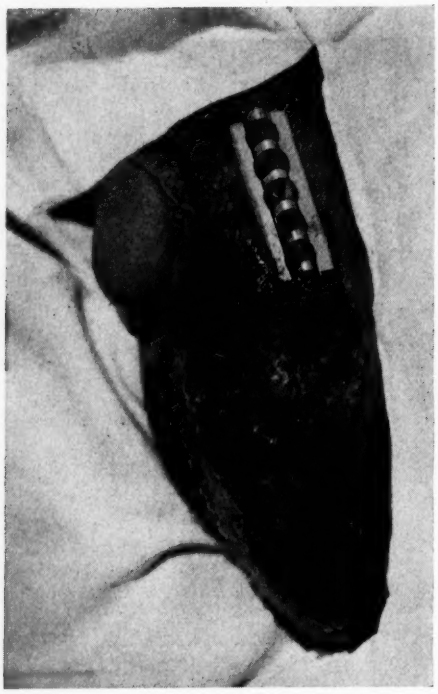

Fig. 8. Skin clip in place after hydrocele operation.

the wound. The blood supply, nutrition and healing are not disturbed, and the tissues are not traumatized.

For rapid closure of surface lacerations on the field of battle, these clips are most valuable, as nurses and orderlies can apply them during emergencies.

SUMARIO

El objeto de la presilla multiple es eliminar el uso de suturas para mantener unidas firmemente los bordes, hasta que la herida esté sana.

La construccion de la presilla multiple previene la estrangulacion de los tejidos, oblitera los espacios muertos y evita la hemorragia capilar. Agujas y material de sutura son completamente eliminados. Infeccion o abscesos por parte de algura sutura abandonada en la herida, es evitado. Se facilita el rapido cierre de la herida, disminuyendo el tiempo de anestesia.

Se eliminan molestias al eufermo en el momento de retirar las suturas. La esterilizacion de las presillas hace mas seguro la prevencion de infeccion, que usando material de sutura. Los vasos sanguineos no son lesionadas y bordes limpios y firmemente sujetos facilita union por primera intencion.

Las presillas no interfieren el uso de drenage. Se previene la reaccion leucocitaria. La circulacion y nutricion no son alteradas y los tejidos no son traumatizados. Para el rapido cierre de heridas en el campo de batalla la presilla es mas util, pudiendo en casos de emergencia ser aplicados por eufermeras y asistentes.

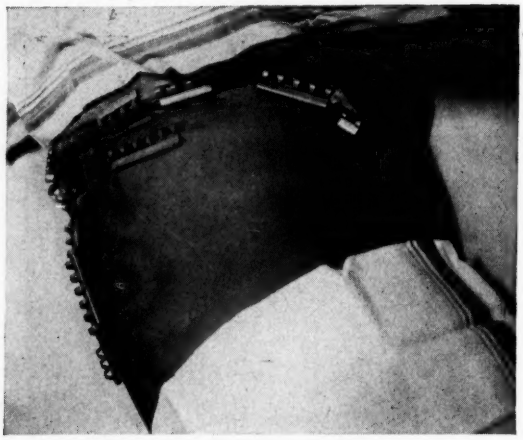

Fig. 9. Closure of extensive laceration of groin and thigh.

RÉSUMÉ

Les agrafes metalliques élimine l'emploi de sutures pour effectuer l'union des marges des plaies cutanées. Les bords de la plaie sont maintenus en contact Jusqu à la guerison. Les agrafes n'étranglent pas les tissus; elles oblitèrent les espaces vides et empêchent les

hémorrhagies capillaires. Elles dispensent de l'emploi d'aiguelles et de matériel de suture et préviennent toute infection des points de suture. Ces agrafes facilitent la fermeture rapide de la plaie; l'anesthésie du malade est ainsi abrégée. L'enlèvement des agrafes est indolare. Leur stérilisation est facile et leur insertion est moins apte à infecter les tissus profonds. Les vaisseaux sanguins ne sont point ponctionnes et leur emploi obtient une apposition des bords de la plaie, facilitant ainsé l'uniòn par première intention.

Les drains n'offrent aucune barrière à l'emploi des agrafes. La réaction leucocytaire et l'élimination de matériel étranger abandonné dans la plaie ne surviennent pas. L'apport sanguin la nutrition des tissus et la guérison ne sont aucunement dérangés et les tissus ne sont pas traumatisés. Pour la fermeture rapide des lacérations superficielles, ces agrafes sont d'une grande utililé. Dans les cas urgents les infirmiers et les gardes—maládes peuvent les insérer.

Выводы

Конструкция мишелевских "clips" такова, что они не удавливают ткани, причем удаляются мертвые пространства и капиллярное кровотечение. Иголки и шейный материял исключаются. Таким образом невозможно развитие човного абцеса. Зашивание раны берет меньше времени, сокращая время операции. Боли и боязныболи при удалении их не бывает. Избегаются уколы сосудов и рана живо заживает пар пірмам. Можно дренировать. Левкоцитарная реакция отсутствует. Эти "clips" легко и быстро накладываются, что должно быть выгодным на поле битвы.

INTERNATIONAL COLLEGE OF SURGEONS

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Experiences with the Bacon Operation for Femoral Hernia

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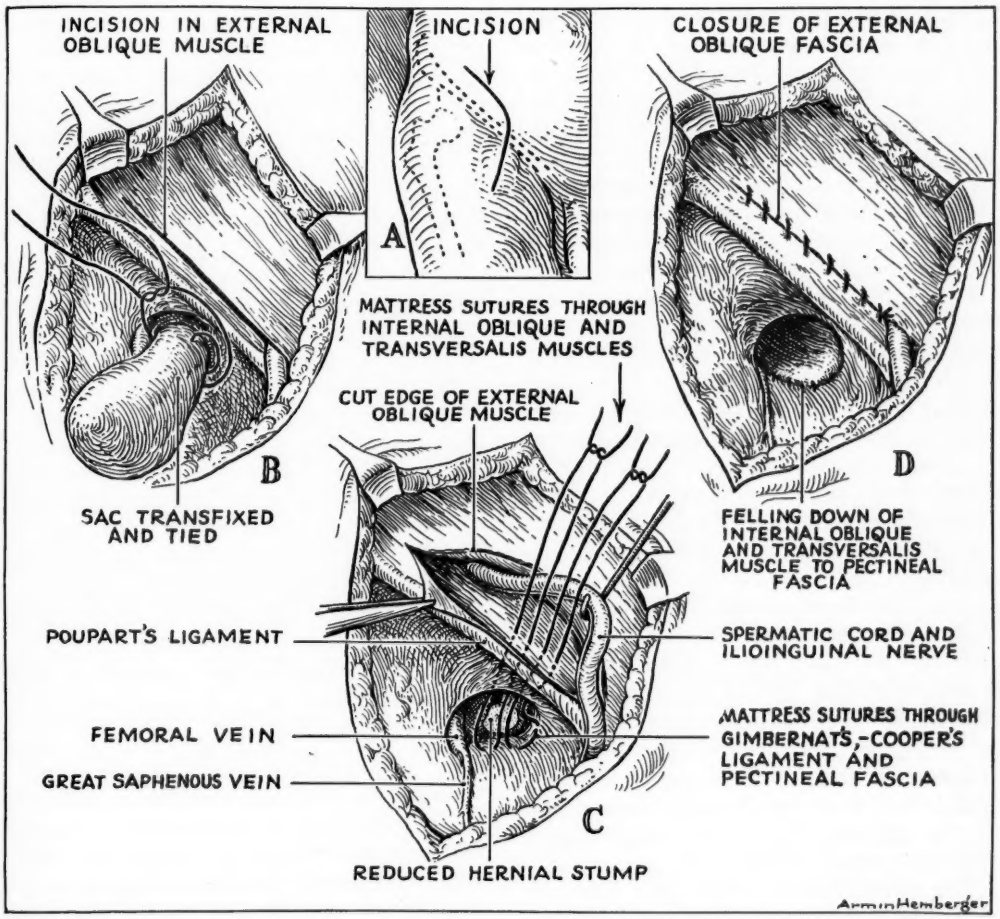
THE *first step* in the operation begins at a point two inches from the pubic spine, and three-quarters of an inch above Poupart's ligament. An incision is then made, passing first inwards, parallel to Poupart's ligament, as far as the hernia, or as far as the situation of the femoral canal, thence turning downwards, in the line of the axis of the leg, over the hernial sac to its lower border (Fig. 1, A).

The *second step* consists in carefully "preparing" the anterior surface of the aponeurosis of the external oblique muscle in the upper part of the incision for a full inch from its reflected border.

The *third step* involves the isolation of the hernial sac, and the return of its contents to the abdominal cavity. The hernial sac is drawn down, out of the abdominal cavity, for a considerable distance, freed of its sub-peritoneal fat, and opened. The hernial contents are examined and given appropriate treatment, according to their condition of viability or otherwise, the sac is then transfixed, ligated as high as possible, and dropped back (Fig. 1, B).

The *fourth step* of the operation consists in thoroughly cleaning up the pectineal fascia in the upper part of the fossa ovalis, and removing all the fat and the loose connective tissue from the femoral canal. In doing this the crural vein must be positively identified.

For the *fifth step* in the operation, an incision is made in the aponeurosis of the external oblique muscle in the direction of its fibres, and about three-quarters of an inch above Poupart's ligament. The incision is extended from a point well over the femoral vessels externally, to a point internal to the free edge of Gimbernat's ligament, which has been uncovered in cleaning out the femoral canal and in preparing the pectineal fascia and the fossa ovalis, and is easily identified by the finger in the canal. When the incision has been made in the aponeurosis, the underlying internal oblique and transversalis muscles and the transversalis fascia should be gently separated from Poupart's ligament with the handle of the scalpel, and the "trough" of this structure emptied, as it were, of its muscular contents, as far as the incision in the aponeurosis extends. In doing this it is necessary to be careful not to "shred" the aponeurosis, either at the edge along the incision, or along the border of its reflected portion, but the free edge of the reflected portion should be gently detached from its not very intimate connection with the anterior surface of the transversalis fascia. When this step has been carried out properly, Poupart's ligament lies stretched in its normal position, as the chord of the arc, running from the anterior superior spine of the ileum directly to the pubic spine; while the internal oblique and the transversalis muscles and the transversalis fascia, now no longer supported by Poupart's ligament,



almost sag of their own weight, to lie against the horizontal ramus of the pubic bone, along the pecten ossis pubis.

The *sixth step* in the operation consists in fastening these muscles in their new position with appropriate sutures. As there is no tension upon these sutures, and since they serve to unite well vascularized tissues, rather than purely fibrous or tendinous ones, fine chromicized catgut can be used with perfect security, or other material may be substituted, if preferred. The sutures should be placed with a small, full-curved, stout needle (Martin's needle is best). The most important stitch, that next to the vein, should be placed first, as close as possible to the crural vein, the vessel being pressed outwards by the left forefinger while the needle is being introduced (Fig. 1, C).

The needle should be entered into the muscle, about one-half inch from the border, which has just been detached from Poupart's ligament, being introduced through the incision in the aponeurosis, taking pains not to pick up any of the fibres of this structure, and should be

made to pass through the internal oblique muscle, the transversalis muscle and the transversalis fascia (it pierces the fascia in the region of the "femoral girdle"). Having passed through the fascia, the point of the needle is made to dip down in the subserous space, between the transversalis fascia and the peritoneum (the latter membrane being pushed out of the way by the left forefinger in the femoral canal) into the true pelvis. The point is then carried forward, towards the fossa ovalis, and pierces first that portion of the transversalis fascia which lines the true pelvis, *i.e.*, the pelvic fascia; next the fibres of Cooper's ligamentum pubicum (this ligament forms, as already stated, the chief anchor for the stitches), then the initial fibres of the pectineus muscle, and finally the pectineal fascia lying upon this muscle, to emerge in the floor of the fossa ovalis, just at the level of the lower edge of Poupart's ligament. It re-enters the floor of the fossa ovalis close to where it emerged, and should be carried back parallel to its first course, burying itself as deeply as possible, to emerge on the anterior surface of the internal oblique muscle and pass out through the incision in the aponeurosis, thus completing a mattress-suture (Fig. 1, C).

The ends should be cut long and left untied until two or, in some cases, three similar mattress-sutures are pased parallel to it, when all should be tied. These mattress-sutures are now reinforced by a row of single sutures, hemming or, perhaps more correctly in seamstress's parlance, "felling" down the curled-up free edge of the muscles to the pectineal fascia (Fig. 1, D). In this way a flat, muscular surface, of considerable extent, consisting of fibres having diverse origins and so supporting different stresses, is broadly and firmly secured, almost without tension, upon the surface of the horizontal ramus of the pubic bone. The femoral canal is completely obliterated, and inasmuch as only a negligible amount of tension is necessary to bring the muscles to their new position, the first, or the most external, mattress-suture can be passed close to the wall of the crural vein without danger of occluding its lumen, owing to the yielding and elastic character of the tissues held down by the sutures.

The *seventh step* is very simple and consists merely in suturing the incision in the aponeurosis with very fine plain catgut, taking care that the needle shall enter and emerge very close to the edges, and that the suture, which should be continuous, is not drawn tight enough to raise a ridge. There is absolutely no tension on this suture, which is applied only to prevent possible accidental gaping of an incision whose edges tend to fall together spontaneously (Fig. 1, D).

The *eighth, and final, step* in the operation consists in closing the cutaneous incision with interrupted sutures of fine silkworm gut.

SUMMARY

Femoral hernia is a common condition in females, but not uncommon in males. Most operative procedures for its repair fail to obliterate the femoral canal at the abdominal end, consequently the high percentage of recurrences. The Bacon technic obliterates the abdominal end of the femoral canal with the use of live muscle tissue without tension. It does not require a difficult technic, and can be performed at all ages and in the face of any complication which might arise in hernias. It is the only hernia operation I know of which produces almost 100 per cent cures. During the 32 years in which I have performed this operation I have never seen a recurrence.

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SUMARIO

La hernia femoral es frecuente en la mujer y no infrecuente en hombres. Muchos procedimientos operatorios tratan de obliterar el canal femoral, y por consecuencia el alto porcentage de recidivas. La tecnica de Bacon oblitera el extremo abdominal del canal femoral usando tejido muscular vivo sin tension. No requirere una tecnica dificil, y puede ejecutarse en todas las edades y para cualquier complicación que pueda presentarse en hernias. Es la única operacion de hernia que conozco, que pueda dar casi un 100 por ciento de curacion, y duranto los 32 años en que he estado ejecutando esta operacion nunca he visto una recidiva.

RÉSUMÉ

La hernie fémorale est fréquente chez la femme et n'est pas rare chez l'homme. Beaucoup des procédés opératoires employés pour la guérison de cette condition ne ferment pas l'extrémité abdominale du canal fémoral; il en résulte un haut pourcentage de récidives. La technique de Bacon oblitère l'ouverture abdominale du canal fémoral par l'emploi de tissu musculaire vivant. La technique n'est pas difficile et est applicable à tous les cas. L'auteur nous assure que cette technique obtient une guérison permanente dans presque cent pour cent de tous les cas.

Выводы

Феморальная грыжа встречается часто у женщин и не так редко у мужчин. Большенство оперативных процедур не успевает ликвидировать феморальный канал в его абдоминальной оконечности, по поводу чего и происходит большой процент неудач. Техника Бейкона позволяет облитерировать абдоминальную оконечность феморального канала, употребляя живой мускул без натяги. Техника совершенно не трудная и употребляется в каком бы не было возрасте и при каком бы то ни было осложенении. Это единственная операция дающая чуть-ли не 100 процентов успешных результатов. В течении 32 лет моей практики я не испытал единственной неудачи при употреблении этой операции.

THIS IS YOUR COUNTRY TO HAVE AND TO HOLD

KEEP HER FOREVER SAFE AND STRONG

BUY MORE AND MORE WAR BONDS AND STAMPS

Double Appendix or Solitary Cecal Diverticulum?

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THE occurrence of a double appendix or of a solitary cecal diverticulum being rare, additional cases may well be reported and attention called to the possible danger of an erroneous diagnosis.

A woman, aged 29, was admitted to the Rochester General Hospital on August 12, 1942, with a history of lower abdominal pain. Bimanual examination revealed a mass the size of an orange in the left pelvis, which I diagnosed as an ovarian cyst. The rest of her history and her physical examination were irrelevant.

At operation, through a midline incision, I found the mass was an intraligamentous cyst, which I carefully enucleated in the routine manner. The pelvis was filled with adhesions, which were not disturbed. A chronic salpingitis with hydrosalpynx was present on the right side and this was removed. A routine appendectomy was then done. Since I was working on the left side of the patient, my assistant removed the appendix. In picking up the cecum I remarked that the meso-appendix contained a mass the size of a large kidney bean, which felt like a phlebolith. I promptly forgot about it and did not notice when the meso-appendix was severed that my assistant had cut open the tip of the mass. The appendix was removed and the stump ligated in the usual manner, and then as we were about to drop the cecum into the abdominal cavity and begin to close the midline suprapubic incision, I noticed a fecal speck on the cecum, one-quarter inch from the ligated appendiceal stump. I removed this with a bit of gauze and then observed an apparent opening beneath it. Gently pressing on this with a thumb forceps, I expressed a very narrow column of fecal material about the diameter of the lead in an average pencil. I then realized that this was a diverticulum or a double appendix springing from the cecum and enclosed within the folds of the meso-appendix, and that it had been accidentally opened just at its tip while the meso-appendix was being cut through during the course of the routine appendectomy. I directed my assistant to carefully ligate the stump (about one-half to two-thirds inch long) and then a combined ligature was placed about the stumps of the two appendices and the abdomen closed in layers. The patient made an uneventful recovery.

One month later, upon the arrival of our new pathologist, he was unable to find the severed tip of the second appendix or diverticulum, because the preserved gross specimen had been destroyed after the routine waiting period of two weeks, since it is customary to save only one slide of the specimen. Hence, we cannot say with certainty whether this diverticulum had two or three coats, *i.e.*, whether or not there was a muscle coat, and we also do not know whether the characteristic lymph follicles were present. If no muscle wall was present, it may be considered a solitary acquired or "false" diverticulum of the cecum (no others were visible anywhere in the gastro-intestinal tract), but if this diverticulum did contain muscle

tissue in its wall, then it should be considered a congenital one, or a true instance of double appendix, whether or not the lymphoid follicles were present. It is my contention that a congenital solitary cecal diverticulum and a second appendix are one and the same thing, a consideration not previously recognized either by the author (in 1930) or by any other writer on the subject.

Adams-Ray thinks he can distinguish between the two. He states that the appendix is apt to be richer in its lymphoid content, except in the fetus or the newborn, and that the arrangement of the muscular wall may vary in the two cases. He further says that the appendix can be distinguished from the congenital diverticulum because it is veriform, whereas the diverticulum is short and broad; also, that the latter is apt to arise from an haustrum while the appendix springs from a tenial band. Many pathologists do not agree with these conjectures. Of the 27 cases that Adams-Ray quotes as being true double appendices, 18 have positive and 9 probable histologic appearances. He cites 6 other questionable cases.

My recent case reminded me of a similar one I had reported in 1930, under the title "Primary Solitary Diverticulitis of the Cecum," and it seems that a brief review of that case may be indicated at this time.

Quoting from this article: "I wish to report a case I recently operated upon, first, because it is very rare, being a case of inflammation in a solitary diverticulum of the cecum; and also because histological examination of the removed solitary diverticulum demonstrated the presence of circular muscle fibres in its wall, a fact which at least suggests the possibility of its congenital origin. A careful review of the literature reveals only one similar case where circular muscle fibres were present.* In this case, reported by Pereira, all three coats were completely present. I am unable to explain on an embryological basis, the occurrence of a possibly congenital diverticulum of the cecum, unless it be true as was recently suggested by Greensfelder and Hiller that such primary solitary cecal diverticulæ may be due to 'retention in some residual form of the appendix which appears in embryological life but normally disappears before the true appendix develops.' "

This woman, aged 63, was admitted with localized pain over McBurney's point, with nausea but no vomiting. Following a diagnosis of acute appendicitis, operation was performed. The appendix was found to be normal but an inflamed, solitary diverticulum was found adherent to the anterior wall of the cecum. After separation from the surrounding adhesions, it was found that the diverticulum arose from the antero-lateral wall of the cecum, about two inches above the ileocecal valve. It was about one and one-half inches long, tense and congested, containing a large coprolith. The diverticulum was removed and the stump inverted with purse-string sutures. The normal appendix was likewise removed and recovery was uneventful. The pathologic examination revealed that the diverticulum was lined throughout with mucosa and contained numerous Lieberkühn glands. The muscularis mucosæ was present everywhere. Surrounding this were a few solitary lymph follicles and fatty tissue. A large patch of circular muscle fibre was also present, but not completely surrounding the diverticulum in this particular cross-section. The serosa completely covered the diverticulum and all of the layers were moderately infiltrated with lymphocytes, plasma cells and eosinophilic leukocytes.

*A few other cases have been reported since this time with muscle fibre in the wall.

Adams-Ray wrote in 1940, that from 1815 to 1938, only 27 cases (18 histologically proved) of double appendix were recorded in the literature. Since the appearance of his paper, two other cases have been reported under this classification by Robertson (1940) and Waugh (1941). Adams-Ray neglected to include my case (1930) and that of Pereira (1927), due, no doubt, to their being classified as diverticulum instead of double appendix. Histologically, one should also search for lymphoid tissue, to make the diagnosis of double appendix more certain. However, in adults and sometimes in children, after several attacks of appendicitis, this lymphoid tissue is destroyed, but the muscular coat usually remains, at least in great measure.

My recent case (1942), reported here, must be included in the probable or questionable group of double appendix because no histologic section was available, and obviously cases of acquired, secondary, "false," or post-traumatic solitary cecal diverticulæ are not to be considered as double appendix. Adams-Ray did not include any of the cecal diverticulæ among his list of cases of double appendix. He stated that only 22 cases of cecal diverticulum have been reported (up to 1940), and that these "lie on the exterior or the posterior side of the cecum, between the teniæ," and are different in size and shape from an appendix. They rarely attain a length greater than 2 or 3 cm., and a diameter more than 1 cm. By his own definition, my case reported in 1930, as a primary solitary cecal diverticulitis, should be properly considered an instance of double appendix, since it was one and one-half inches long and contained a muscular coat and, in addition, a few solitary lymph follicles.

In addition to my case of 1930, and that of Pereira, which Adams-Ray missed, the following cases should have been included, because in all of them histologic evidence of a muscular coat (with or without the additional presence of charactertistic lymph follicles) was observed. They are (1) Odgvist and Petrén (1931); (2) Epstein (1933); (3) Thomsen (1935); (4) Owings and Morgan (1940); and (5) Berg (referred to by Braatz).

In Berg's case, two appendices arose, one from the left and the other from the right side of the cecum, the two being joined at their tips. Histologically, the lumen of both were joined at their tips, but the rest of the structure was that of a normal appendix. The sixth and seventh cases were reported by Bennett-Jones (1937). In one the muscle coat was apparent in two layers, and in the other case of congenital diverticulum the pathologic report stated that the muscular coat was also present in two layers. Microphotographs proved this point conclusively. The other cases (8 and 9) were reported by Robertson (1940) and Waugh (1941). In all, this makes 38 proved cases of double appendix—27 collected by Adams-Ray, my case (1930), Periera's case (1927), and the nine positive cases enumerated above.

In addition to the positively proved cases, some of the so-called questionable cases are perhaps also instances of double appendix, such, for instance, as my case of 1942, herein reported, in which positive histologic proof was not available. Also classified among the questionable cases are two reported by Adams-Ray himself, one of a patient who had an appendectomy in 1934, and another operation two years later, and the second of a patient upon whom he operated in 1937.

Also classified as a questionable double appendix is the case cited by Ostrom (1911), in which appendectomy

was followed by a second operation, at which time no evidence was found of the first appendectomy but a "diverticulum" was found, covered with peritoneum and lying retrocecally. "It apparently originated from the caput coli in the region of the former appendix . . . The process was two and one-half inches long, possessed no mesentery, and upon section showed a lumen communicating with the intestine. It contained several fecal concretions." To quote further: "In the present case the cecal diverticulum possessed lymphoid structures, and its lumen remained patent, two features that perverted its normal transcient life and fitted it to assume the rôle of a permanent organ," and as Ostrom rightly summarizes, "for all purposes, clinical or surgical, this diverticulum was an appendix; when inflamed it caused similar symptoms and required similar treatment." This case must be classified as doubtful double appendix, because no mention has been made histologically of the presence of a muscular coat.

Another case classified as questionable is that reported by Braatz. In this case, the appendix had been removed ten months previously and the patient came to Braatz because of a persistent sinus through the operative scar. Diagnosing it as an abscess, reoperation through the fistulous opening was done and a superficially situated appendix was unexpectedly found and removed. Apparently the second appendix had been overlooked by the first surgeon, who, perhaps, removed the non-pathologic appendix and left the diseased twin appendix behind.

In all, Adams-Ray described six "questionable" cases of double appendix, but to these I have added the cases of Ostrom and my own recent case (1942). Undoubtedly, there are several other cases that belong in this group.

In his lengthy discussion of the unquestionably proved 27 cases that he cites, Adams-Ray divides them into three groups. Group I consists of 8 cases, all found in full-term fetuses or young infants, which displayed numerous other abnormalities. He classifies these as the "avian," or bird, type of double appendix. They have many striking similarities, such as, in addition to twin appendices, vesical-vaginal communication, incomplete development of the colon and rectum, and atresia of the anus. The eight cases are those described by Bartels (1867), Emrys-Roberts and Paterson (1906), Hammer (1897), Kermauner (1906), Lawen (1913), Berenberg-Gossler (1913), Tango (1929) and Del Plaine (1936). In general, all had completely separate appendices arising on opposite sides of what corresponds to the ileocecal opening; all had vesical-intestinal communication, an incompletely developed colon and atresia ani. All but the case of Berenberg-Gossler had ectopia vesicæ. In the case reported by Emrys-Roberts and Paterson, the cecum communicated with the cloaca, which had an exterior opening.

Adams-Ray, in reviewing the embryologic development of the intestines, conceives that in these eight cases an arrest occurred just prior to the fourth week before the bladder and cecum were fully separated. The material for the appendix is presumed to exist on each side of the cloaca and normally unites at the indrawing place of the fold (Fig. A). When these two appendical anlage join together, we have one normal appendix, and there is complete separation between the bladder and cecum (Fig. C). When the infolds do not join together, we have an abnormal bladder-intestinal communication with the presence of a double appendix (Fig. B). Presumably, the development of a double appendix without bladder-intestinal communication can be explained by theoretical Figure D.

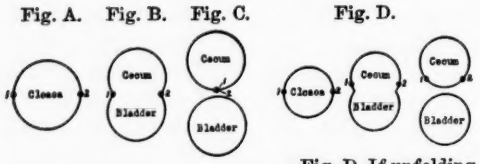

Fig. D. If unfolding starts at wrong place.

1, 2=Anlage of Appendix.

Diagrams giving plausible explanation for cases of double appendix, both with and without bladder-intestinal communication.

Adams-Ray believes the Pratt case (1933) to be a transitional form between the above group with bladder-intestinal communication and the next group without this defect. In this case, an infant operated upon at the age of eleven hours for imperforate anus, died of sepsis four days later. There was found no vesico-intestinal communication and the colon was developed down to the sigmoid but the rectum was absent. There were lateral teniæ, ending at the bases of the two appendices.

Adams-Ray divided his second group into two sections; that of double appendix without vesical-intestinal communication and where the development of the large intestine is complete. Included are the cases of Grohé (1900), Schooler (1907), Young (1911), Jalaquier (reported by Berard and Vignard in 1914), Berthold (1932), Green (1932), Fleischman (1815), quoted by Grohé, Kaufmann (1922), and Wilson's case described by Cave in 1936. Robertson (1940) and Waugh (1941) described similar cases after Adams-Ray's paper was published. Also to be added to this group, are the nine positive cases that I have already added (Leonardo, Pereira, Berg, Odgvist and Petrén, Epstein, Thomson, Owings and Morgan) and the two cases reported by Bennett- Jones.

In the second division of the second group, Adams-Ray includes cases characterized by two cecums with an appendix at the normal site on each. These cases were reported by Rokitansky (1846), by Merkel in his *Tabelle Anatomicæ Pathologicæ,* and by Greig (1934).

The third group includes cases in which the two appendices are not completely separate. They may arise close together at the normal site, separated only by the fibrous connective tissue of the submucosa, and both contained in common muscular coats and serosa. Cases were reported by Rosenberger (1903) and Prentiss (1907). Walthard (1931) reported a case in which the appendix started from a single point of the cecum, then formed two parallel tubes for a distance of 25 mm., reuniting to form a single lumen for the last 10 mm. The whole process had a common longitudinal muscular coat and serosa, with one mesentary, but each branch had a separate mucosa, submucosa and circular musculature. In the case of Clavel and Colson (1933), two appendices were found at the usual site, about 1 cm. apart, running parallel with distinct lumens for their entire length. There was a slight fusion at a point near the tip, "so that only the mucosæ intervened between the two lumens." A single artery supplied both tubes, which were contained in one serosa and a single combined mesentary.

Another case is that of Elwyn (1924), who reports a "two-limbed" process, a normal one from the right cecal sacculation and another limb from the left, seemingly fused into a common appendix at the tip, each limb, moreover, with typical structure as to epithelium, glands and lymphoid tissue. "The lumina of the two tubes became continuous at the free tip, the common lumen extending a short distance." The last case of this group is that of Piraja (1934), in which the appendix originated at the usual site, continued upwards and was adherent retrocecally to the cecum, with which it communicated freely.

For this last group of partially connected appendices, Adams-Ray suggests a possible explanation: "If one imagines, first, a fusion of the apices of two (appendices) into one lumen, the nearer the bases have afterward lain, the greater has been the fusion between . . . until we obtain a processus veriformis with double lumen."

Three theoretical explanations have been advanced to account for these cases: (1) They are instances of a real double appendix; (2) they are single appendices plus a solitary cecal diverticulum, and (3) they are two cecal diverticulæ associated with aplasia of the appendix. Careful histologic study by an expert pathologist will usually determine whether or not the case is one of true appendix, that is, of a true or congenital cecal diverticulum. The presence and arrangement of muscle tissue, and especially in younger individuals the characteristic presence of lymphoid tissue, are microscopic evidences that favor the diagnosis of true appendices.

DISCUSSION

Two cases of double appendix, one certain and one probable, occurred in my private surgical practice. The recent case is especially important because it could easily have been overlooked and a fatal peritonitis might have ensued. Surgeons should beware of any "mass" in the meso-appendix. The occurrene of a double appendix also has medico-legal significance, because the surgeon may become exposed to a possible claim for damages if inflammation, requiring a second operation, occurs. Unless a specimen has been saved to prove the previous appendectomy, the surgeon may have difficulty in proving he had removed an appendix at the time of the first operation. In the larger cities, hospitals have pathologists, as a rule, but in the smaller rural hospitals this does not always hold true, with consequent additional risk to the surgeon. One way to avoid such risks is for the surgeon to look for a second appendix or any other abnormality of the cecum, such as a solitary "false" cecal diverticulum, at the time he does his original operation.

Cases have been reported in which inflammation in the second (and rudimentary) appendix has been misinterpreted as stumpitis, and the former surgeon may be unjustly blamed for having removed a diseased, even gangrenous, epiploic appendage, and to have mistaken this for the appendix in spite of the absence of lumen in the former. Moreover, in removing an appendix that does not appear to be pathologic enough to account for the patient's symptoms, the surgeon should bear in mind the possibility of a double appendix. The second appendix, which he may have overlooked, may be the one that is actually causing the patient's symptoms. The case reported by Braatz nicely illustrates this point. In all of these cases, stumpitis must not be confused with a second appendix.

It should also be borne in mind that cases of post-operative (traumatic) cecal diverticulum frequently occur, as reported by Bunts (1914), Greenfelder and Hiller (1929), and others. Quite recently, in removing an appendix extremely adherent to the cecum, with complete obliteration of the meso-appendix, I found that the cecal wall had been damaged, so that within a few seconds a pouch of cecal mucosa began to swell out between the lines of attachment of the meso-appendix to the cecal wall. I promptly recognized this quick development of a post-traumatic (acquired) diverticulum and repaired it by suturing the seromuscular margins over this defect with two rows of sutures. Had I not noticed this development, the patient would not only have been left with a bulging diver-

ticulum the size of a hickory-nut, but later this might have greatly increased in size and could easily have ruptured, possibly causing a fatal peritonitis.

Finally, a surgeon must be on the alert to recognize and distinguish between double appendix and other conditions simulating it, such as the case of self-amputation of the appendix, with the amputated portion becoming secondarily attached to the cecum to suggest a second appendix. Such a case is cited by Goldschmidt and included by Adams-Ray among his six questionable cases. The first attack of acute appendicitis, during which the assumed self-amputation occurred, was passed without resorting to surgery. Later, during another attack, Goldschmidt performed an appendectomy, removing what appeared to be a short, but normally developed, appendix. He then also noted a nut-sized mass on the anterior aspect of the cecum, which was covered with omentum, but seemed to have a mesentery of its own, thus suggesting a second appendix. When removed, however, no aperature was present in the cecum. Obviously, it represented the distal portion of the appendix that had sloughed off and become attached to the cecal wall. Histologically, it was a true appendix.

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SUMARIO

Treinta y ocho casos de apendice doble positivamente probados han sido reportados, ademas de otros pocos probables. Solamente por el estudio histológico puede actualmente determinarse si se trata de un apendice doble o de un divertículo del ciego. La presencia de foliculos linfoides y una definida y completa capa muscular, esta ultima menos importante, establece el diagnostico de un verdadero doble apendice. En mi opinion, esto es

sinonimo con un solitario y congenito diverticulo cecal.

RÉSUMÉ

Trente-huit cas positifs d appendices doubles sont rapportés dans la littérature. On rencontre aussi dans la littérature médicale quelques cos douteux. L'etude histologique determine si on est confronté par un appendice double ou par un faux diverticule cœcal. La présence de follicules lymphoides et une coulhe musculaire définie et relativement complète établissent le diagnostic d'appendices doubles. Dans mon opinion, ceci est synonyme avec un diverticule cœcal congenital et solitaire.

Выводы

Автор утверждает, что в литературе описанны тридцать восем случаев двойного червообразного отростка и несколько сомнительных случаев. Только гистологическое изучение может утвердить разницу между двойным аппендиксом и псевдодивертикулом слепой кишки. Только наличие лимфоидных фолликулов и более или менее цельного мускульного слоя оправдывает диагноз двойного отростка. По мнению автора такой отросток есть конгенитальный дивертикул слепой кишки.

BOWDITCH, in 1853, referred to a case report of eventration of the diaphragm made by Senac in 1729. Most writers credit Petit as having first recognized and named the disease. Petit died twenty-five years prior to the appearance of his case report. The writings of Cruveilhier recognized Béclard as the originator of the term. March, in 1867, reported the first instance of clinical recognition together with autopsy observation. Widenmann, in March, 1901, made the first report of roentgen studies. Struppler, in May, 1901, made a similar report. The case of F. Schneider presented his diagnostic problem at various clinics. Hirsch, in 1900, made a diagnosis of hernia of the diaphragm. Wolkmann and Becker described the condition as dextrocardia. In 1905, Hildebrand and Hess, adopting Schlippe's technic of measuring respiratory variations of intragastric pressure, made a diagnosis of eventration of the diaphragm. In 1912, von Eggling performed an autopsy on Schneider and verified the original diagnosis of Hirsch. Wieting, in 1906, made the first and only report of eventration of the right side associated with a hernia of the left leaf of the diaphragm.

H. J. Sims, M.D.

Editorials

The Significance of the Carotid-Sinus Reflex in Biliary Tract Disease

THE occurrence of syncope, dizziness, collapse and even convulsions during an attack of biliary colic has occupied the attention of surgeons for years, particularly since Osler, in 1893, called attention to the significance and importance of these phenomena. Osler suggested that they were caused by the intensity of the pain; later, however, he considered cardiac standstill a possible cause and emphasized the danger of sudden death due to such a reaction.

More recently, surgeons have given thought to the possible interrelation between gall bladder disease and cardiac dysfunction and it has been noted that improvement in the symptoms of coronary disease and subsidence of certain cardiac arrythmias occasionally followed the removal or drainage of a diseased gall bladder.

In a study of the sensitizing factors in carotid-sinus reflex hypersensitivity, Engel and Engel *(New England Jour. Med., Sept. 24, 1942)* found that a hyperactive cardio-inhibitory (vagal) type of reflex occurred very frequently among patients with disease of the biliary system. This suggested increased activity of the vagal-reflex arc in this group of patients and warranted further analysis. Twenty-three patients who entered the hospital because of acute biliary disease were studied. The authors summarized their conclusions as follows:

The cardio-inhibitory carotid-sinus reflex was examined in 23 patients with more or less acute symptoms of biliary tract disease, 13 patients with toxic hepatitis and 81 ward patients selected at random. Eighteen, or 78 per cent, of the patients with biliary tract disease had asystole of three seconds' or more duration on massage of the carotid sinus. Of these, 11 had common-duct obstruction and jaundice, 5 had cholecystitis and cholelithiasis, and 2 had the post-cholecystectomy syndrome. In 10 patients the carotid-sinus reflex was re-examined after the acute symptoms had subsided and was found to be negative in six. Seven patients had spontaneous symptoms consisting of dizziness, faintness or syncope in association with symptoms referable to the biliary tract. The five patients who failed to yield positive reactions had cholecystitis and cholelithiasis, without involvement of the ducts. Among the 13 patients with toxic hepatitis, only one showed an overactive cardio-inhibitory reflex.

Among the 81 ward patients examined at random, only 16, or 19 per cent, yielded positive reactions. The diagnoses in the positive cases included acute rheumatic carditis, coronary-artery disease, arteriosclerosis, cancer of the viscera, hyperthyroidism and duodenal ulcer.

The reaction is considered by the authors to be the result of a summation of afferent impulses and not a sensitization

of the carotid sinus itself. The major portion of these impulses probably arises from afferent end-organs in the regions of the biliary tract, but when further impulses from the carotid sinus are added to the reflex arc, the threshold of reaction of the vagal centers is reached and cardiac inhibition results. The clinical significance of the hyperactive carotid-sinus reflex is discussed from the view of the various sites at which the reflex arc may become sensitized by disease.

Soviet Military Field Surgery*

"ALMOST fourteen months of the heroic struggle of the Red Army against the blood-thirsty Hitlerites have elapsed. During this time the army has learned new forms of warfare and strategy. Owing to the unusually vast motorization and mechanization of modern armies, the war has assumed a peculiar character of fighting operations, being carried out in a new fashion.

"It is, therefore, easily understood that the war medical service, in particular the organization of war surgery, had to take into account the above peculiarities to meet the requirements of modern warfare.

"The principles designed during the Soviet period reflect the general rise and initiative of the forces. Young leaders summoned to activity, actively criticized the system of the old Czarist army, and thoroughly studied the organization of war medical service and the field of military surgery, developed during the first imperialist war.

"The chief military medical administration of the Red Army concentrated its attention on the medical service of the American army, as this corresponds more nearly to the suggestions of the government, and to the attitude of scientific circles. The aims of the military medical administration were as follows:

1. War-time surgery should be founded on the achievements of modern science, both theoretically and practically.
2. War-time surgery should be carried on by competent physicians.
3. The organization of military medical service in the field of surgery in particular, should have an inexhaustible supply of materials, such as drugs, bacterial preparations, equipment, instruments and X-ray apparatuses.
4. Special attention should be paid to the health of the army personnel, primarily to preventive inoculations.

"According to these principles the military medical service has been organized as follows:

1. The specialization principle has been followed with regard to surgery, as well as to therapeutics and hygiene.
2. Much care has been given to the instructions of specialists in:
   (a) Major abdominal surgery.
   (b) Traumatology.
   (c) Mandibular facial surgery.
   (d) Neurosurgery.
   (e) Roentgenology.
   (f) Internal diseases.
   (g) Epidemic affections.
3. All outstanding authoritative physicians of the country have been mobilized to

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*Reprinted from *The Military Surgeon, December, 1942, 91: 687.*

serve as chief surgeons in the army and at the front. This similar principle has been followed with regard to other specialties.

4. The chief military medical administration of the Red Army disposes of a sufficient number of military schools to meet the requirements in medical personnel.

"The military medical organization was thereby able to fill the vacancies of leading administrative officials, and conscription of physicians during the current patriotic war did not present any difficulties. Both at the call of our leaders, and on our own initiative, taking into account the general political situation, our society has been organizing, within recent years, congresses and special conferences on the problems of defense. Hence, all branches of medical work have been drawn on to deal with the ideas and practical problems of defense.

"Great experience has been gained from the severe battles against the foe, and consequent correctives were made in the organization of the military medical service. Thus the problems of blood transfusions were revised by supplying the army with medicines, bacterial preparations, instruments, etc. Many modern concepts and problems were likewise revised, and a study made of toxoids, bacteriostatic and sulphamide preparations, etc. The technic of Russian operations is widely known, and many of them have been approved abroad. Our instrument and chemical industries have started mass production and are able to supply the army and rear with chemical preparations and instruments.

"The number of surgeons at the present time exceeds the total number of physicians in the Czarist army. Our physicians are full of vigor and patriotic enthusiasm. They reveal the maximum initiative wherever they are. At the front, both physicians and the whole medical personnel work shoulder to shoulder with the army men, showing examples of heroism and courage.

"Surgical service, now in progress, has revealed the results of the pre-war preparatory work. One may see the old venerable surgeon-professor, as well as the younger one, both aiming at helping the front. There they occupy the position of army surgeons; they participate in performing operations, which is their main function. No wonder, then, that we have achieved a 70 per cent return of the wounded to the front!

"Many medical men have been highly decorated—not a few perishing in the fight for their fatherland. Their memory will be venerated—their heroic deeds and self-sacrifices live. The fatherland will never forget their names.

"At the present time our struggle has reached a point where extreme strain has to be exerted in all kinds of activity. Beyond a doubt, we shall find the necessary vigor and source of energy. All nations of the Soviet Union share in their supreme love for the fatherland and their will to exterminate Fascism and its adherents. Our front and rear form an integral whole.

"However, in our struggle for the common interests of all progressive humanity against Hitler's aggression, we are looking forward to more efficient assistance from our allies. The German Fascists are oppressing numerous nations, and threaten slavery not only to the Russians, but to Englishmen, Americans, and others as well. Many people well realize this menace, and it is time for all people to understand that their own independence and the fate of democracy are to be decided in Europe—that the main foe is Hitler Germany. The military machine of German Fascism should be crushed by the joint efforts of all allies.

"Our military medical service is headed by the corps physician, I. Smirnov, an energetic man of great erudition and initiative. It is due to his endeavors, in introducing all the achievements of modern science into the military medical service, that our organization is in a position to solve the many complex problems of this gigantic war. Unprecedented experience has been gained in the military field of surgery. New original forms of tactics have been developed, such as the function of a physician in group-war.

"Space does not permit us to discuss the details here, but we are ready to share them with our American colleagues. They may learn many instructive suggestions, and will, presumably, avail themselves of the experience of Russian physicians, in their forthcoming battles against the German Fascists."

Nikolai Burdenko, M.D., F.I.C.S. (Hon.)

Renal Calculus

IN AN exhaustive and illuminating review of the subject of renal calculus, Randall *(Trans. New England Section Am. Urol. Assn., Dec. 4, 1941)* concludes that certain axiomatic statements can be made now regarding the genesis of calculus. Of the five general theories of stone formation (avitaminosis A, hyperparathyoridism, infection, stasis and colloidal imbalance), none gives a truly complete answer. Calculus is now considered only a symptom in a much wider problem. There must be found a common denominator for its origin—something that will act as a nidus to which the earliest crystal, whatever it may be, can attach itself. For this we must go beyond the occurrence of a visible calculus. As contributory factors, we know that not only certain metabolic, dietary, infectious and pathologic conditions can produce the renal damage, but also that with such conditions the hyperexcretion of certain urinary salts, actually in supersaturation verging on precipitation, must also occur. When these two conditions meet in the renal calyx, crystals are deposited which eventually grow into a primary renal calculus.

As to the prevention of stone formation, present knowledge allows us to demand, among other things, a prompt and complete stone analysis. There is rarely a truly pure stone, but when 90 per cent of a stone is of one salt it should be considered pure for that salt alone. If uric acid predominates, a careful metabolic study is urged, together with the administration of citrocarbonate or a similar drug, to find the dose that will raise the urinary pH to 6.0 and keep it at this level.

The oxalate is also a difficult problem. Dietary regulation is not dependable and moderate alkalization may be tried. In both of these salts, clearing up all focal infection and the daily ingestion of at least 2,000 cc. of water are paramount. Calcium phosphate stone-makers should be studied to ensure a well-balanced diet, and tested especially for hyperparathyroidism. If the test is positive or even suggestive, exploration of the neck is urged. The ingestion of large

quantities of water daily is perhaps the best answer to the problem of prevention, for, given a dilute urine there is little likelihood of sufficient concentration for any salt to be deposited as crystals, whether or not there is a nidus.

Randall concludes that, although we have a much better control of stone formation today than a decade ago, and with better cooperation of the patient, there is still much to be done toward the clarification of the problem and its complete pathologic aspects.

A. L. Wolbarst, M.D.

ANDREAS VESALIUS, in 1506, the founder of modern anatomy, discovered that life could be maintained after opening the thorax of animals to study the motions of the heart by blowing air through a tube directly into the trachea. It is to be recalled that one of the chief functions of respiration was to aid in the circulation of the blood. Robert Hook proved this erroneous in 1667. He gave an account of his experiment which his colleagues questioned, and repeated the procedure on Oct. 29, 1667, before the Royal Philosophical Society.

"The thorax was displayed by the cutting away of ribs and diaphragme; and after that the pericardium of the heart also was taken off. The dog was kept alive by the reciprocal blowing up of his lungs with the bellows, and they suffered to subside, for the space of an hour or more, after his thorax had been so displayed, and his aspera arteria cut off just below the epiglottis, and bound on upon the nose of the bellows. Upon ceasing this blast from the bellows and suffering the lungs to fall and lye still, the dog would immediately fall into dying convulsive fits; but he was soon revived again by renewing the fulness of his lungs with the constant blast of fresh air."

He observed that blood actually circulated in the lungs throughout the experiment, and concluded that the motion of the lungs contributes nothing to the life of the animal. It is not known when the bellows were used as a means of resuscitation. In the latter part of the eighteenth century, bellows were in general use and were recommended by the Royal Humane Society. The date of intubation for keeping the air passage open is not known. Desault accidentally injured the trachea in an attempt to force esophageal feeding and observed that the larynx tolerated the presence of the tube. From the observation he devised the technic of introducing a catheter into the trachea for obstruction of the larynx.

H. J. Sims, M.D.

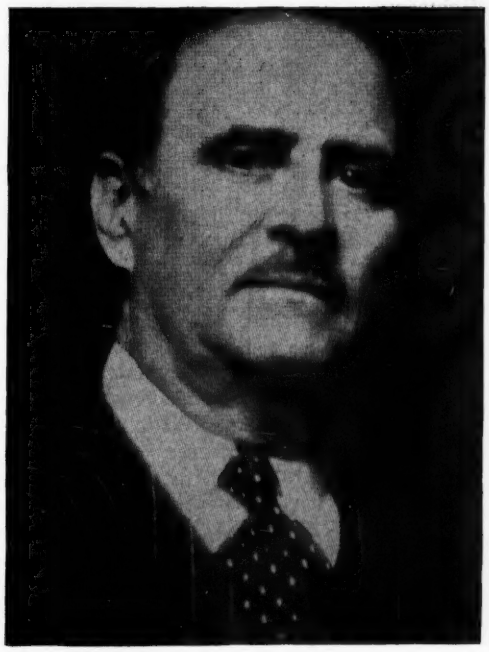
Peruvian Chapter News

DR FRED H. ALBEE, President of the International College of Surgeons, delivered an address on Surgical Rehabilitation last September, 1942, in the auditorium of the Workmen's Hospital, Lima, Peru. He described the modern concepts of surgical rehabilitation and stated that he believed the percentage of bone injuries would be much higher in this war, due to the modern conditions of mechanized and air combat. He defined rehabilitation as the return of an invalid to society in a physical condition in which he might sustain himself and become a factor of production in the community. The state of New Jersey was cited as an ideal example of a rehabilitation center. Not only is the surgeon concerned in the rehabilitation of an individual, but specialized centers of education and training are important. Thousands of rehabilitated invalids are working today in United States war industry through specialized training.

Dr. Albee projected two films, one exhibiting the technic employed in bone graft of the patella for the treatment of pseudoarthrosis, secondary to a transverse fracture of the patella. The function of the new saw invented by Dr. Albee for bone grafts was observed in this film. The second dealt with the treatment of rehabilitation of the crucial ligaments of the knee joint.

Dr. Constantino Carvallo, Minister of Public Health, Work and Social Provision, opened the address.

Dr. Francisco Graña, President of the Peruvian Chapter of the International College of Surgeons, gave the following address:



Dr. Francisco Graña

"There is an aspect of medical progress that consists of the continuous, anonymous, universal and silent efforts of scientists all over the world, who study and labor conscientiously and with fervor. This results in the slow accumulation of new facts, new interpretations, fortunate inventions or revealing symptoms, improved technics or efficient remedies. The immense material thus accumulated is selected and crystallized as time goes on and leaves us a continuous legacy of progress and perfection. But the great reforms, the discovery of new methods of research or new means of fight against diseases for eternal and everlasting achievements, have always been the work of selected spirits.

"I shall not recall all the past of medicine since its origin in the mysterious India or

during the splendid era of Greece and Rome; the dark and contemplative Middle Age or the period of Renaissance, that represented the return to light and reason; not even the important times of the Seventeenth and Eighteenth Centuries, these vital periods of history in which the medical doctrines were established according to the great conceptions of human thinking. All I shall recall will be the years since the middle of the Nineteenth Century up to the present time, and in which the transition of hypothesis and theories have reached their climax in full domination of experimental determinism. Medical science has conquered more truth during this time than in all its secular past. The intellectual production is incalculable in this very short period of time, the scientific institutions, academies, medical schools, societies and other different groups, and thousands and thousands of devoted unknown heroes who have dedicated their lives to research and study. There is the exuberant and enormous medical literature of the last one hundred years that guards, coordinated and constructed, this immense wealth of human knowledge. But I shall repeat that the glorious edifice of modern medicine reposes totally on the foundations erected by the genius of the great reformers.

"Morton and Simpson, who discovered narcosis, broke down the great obstacle that prevented development of surgery. Lister was immortalized in founding antiseptic surgery. The superior genius of Pasteur created bacteriology, vaccination, serotherapy and asepsis. Roentgen achieved the miracle of making dark bodies transparent. Ehrlich with arsenobenzol initiated the positive chemotherapy whose horizons were clearly foreseen, and Domagk with the sulfonamids converted in fertile reality Ehrlich's dreams—the terapia sterilizans magna. Freud revealed the supreme importance of subconsciousness, illuminated and revolutionized the concept of physiology and pathology of the soul and its intimate reciprocal dependence with the physiology and pathology of the body.

"There is not one aspect of actual medical biology, surgery, psychiatry, and social hygiene which did not find a reason to be, its ways of conduct, its means of action, the motives for its progress and its triumphs in the fundamental principles of those reformers.

"It is not the task of the moment, nor could I do so, to outline the state of medicine in the actual world, not even with reference to only one center of importance. But you will permit me as an honor to the illustrious man of science who is visiting us, and to show more clearly the high position to which he attained, to recall to memory some of the eminent personages of North American surgery, and their valuable contributions to universal science.

"Of course, in the first half of the Nineteenth Century, surgery continued the tradition of the Eighteenth Century following predominantly the preanesthetic era and before Pasteur. In it shone without doubt figures such as Physick, considered the "Father of American Surgery," Post, King, the Warrens and MacDowell, contemporaries to Bell, Cooper, Coles, Brodie, Syms and Ferguson, in England; Larrey, Depuytren, Lisfranc, Delpech, Velpeau, Malgaigne, Nélaton, in France; Langebeck, Dieffenbach, Graefe, Strohmayer, in Germany; Nicoladoni, Loreta Pietro, Bassini, Nigrisoly, Rizzoli, Paci, and Codivilla, in Italy. However, at the second half of the century there appeared Sims, whose name we recall for the peculiar lateral position for gynecologic examination, his speculum, his operation for repairing fistulas and his important work "Clinical Notes on Uterine Surgery." Emmet, the initiator of plastic surgery of the feminine organs; Batey, of the renowned Medical College of Philadelphia, the first to suggest oophorectomy, and other operations of the uterine appendages. Later, Bigelow, Professor at Harvard Medical School, who was the first to excise the hip-joint in America, and who also introduced the surgical procedure of litholapaxy or lithotrity for rapid evacuation of vesical calculus. Gross, of the Jefferson Medical School, the greatest American surgeon of his time, and one of the best urologists of that epoch in the world. Keen, of the same medical school, a brilliant and skillful operator, particularly in brain diseases, author of *The System of Surgery,* the best American work of its kind. Senn, a great surgeon and master to whom we are indebted for the

greatest progress in gastro-intestinal surgery. McBurney placed on a sound base the diagnosis of appendicitis. Hartley, initiator of intracranial neurectomy. The brothers Charles, Horace and William James Mayo, famous unforgettable surgeons, creators of technical procedures, in truth, geniuses in systematizing and organizing medical assistance; their clinic in Rochester has not only elevated the intellectual level of the doctors, but has founded a true aristocracy of professional conduct. Kelly was during half a century a figure of the first order, a great teacher to whom gynecologic surgery is indebted for its great progress. Halsted, who simultaneously with Bassini, practiced the radical cure of inguinal hernias. Crile, of Ohio, author of notable experiences regarding surgical shock, creator of anoci-association of block dissection of the lymphatics in cancer. Cushing, Profesor of Johns Hopkins and of Harvard, one of the greatest neurologic surgeons of the world. Murphy, the most noted master of surgery of the present time, inventor of numerous methods of intestinal suturing and who did an epoch-making work in the production of cholecysto-intestinal, gastro-intestinal, entero-intestinal anastomosis and approximation without sutures by means of a special button.

"At the beginning of the present century another outstanding figure in American surgery loomed on the horizon. I refer to that greatest surgeon, Fred H. Albee.

"Already in the year 1809, Merrem successfully transplanted boneplates in the skull of animals, and Walther and Ollivier nearly a century ago demonstrated the reliability of this method of autogenic bone grafts. Macewen, Frangenheim, MacWilliams, Phemister and, above all, Albee, proved besides the reliability of the "taking" power of autogenous grafts and, what is most valuable, proved that if the grafts have to assume a function they are able to adapt themselves according to Wolf's law (structure, dimensions, resistance, etc.). Carter, lastly, proved that the graft could subsist without being in contact with another bone, as observed in many cases of nasal prosthesis that remained in the midst of soft tissue.

"The importance of Professor Albee's work is that it has been created by beginning with simple data of an experimental character and extensive, innumerable experiments with the evolution of a technic, indications and instruments absolutely his own. The value of a reform in medicine or surgery is measured by its amplitude and extension of the benefits recorded in the results of its use and in this sense few advances made in modern surgery have had more ample projections and efficient applications than that of bone grafts.

"In the vast history of orthopedics and of reparative surgery, in surgery of today the work of Professor Albee is outstanding and his "Surgery of Bone Grafts," is a valuable and original contribution to surgical literature.

"A particular and very interesting aspect in the evolution of modern medicine, is its tendency to become international. The convention of Geneva that gave birth to the Red Cross in 1863 and in which many nations agreed to become neutrals in the fields of battle, wounded and sick, doctors and nurses alike, was the first manifestation. We know that this movement was profoundly noble and human, and it carries on its mission today with respect and abnegation in all the world.

"Another good sign of such an inclination appears in the award of the Nobel prize, without any consideration of the question of nationality, and thus it has honored von Behring, Ross, Finsen, Pavloff, Koch, Golgi, Cajal, Kocher, Kossel, Gullstrand, Carrel, Laveran, Roentgen and others.

"An equal demonstration of this internationalism we observe in the generous gifts of several American capitalists, such as Rockefeller and Phipps, who have invested huge sums in research work, in sanitary campaigns, in schools of medicine, all carried on in the varied countries of the universe.

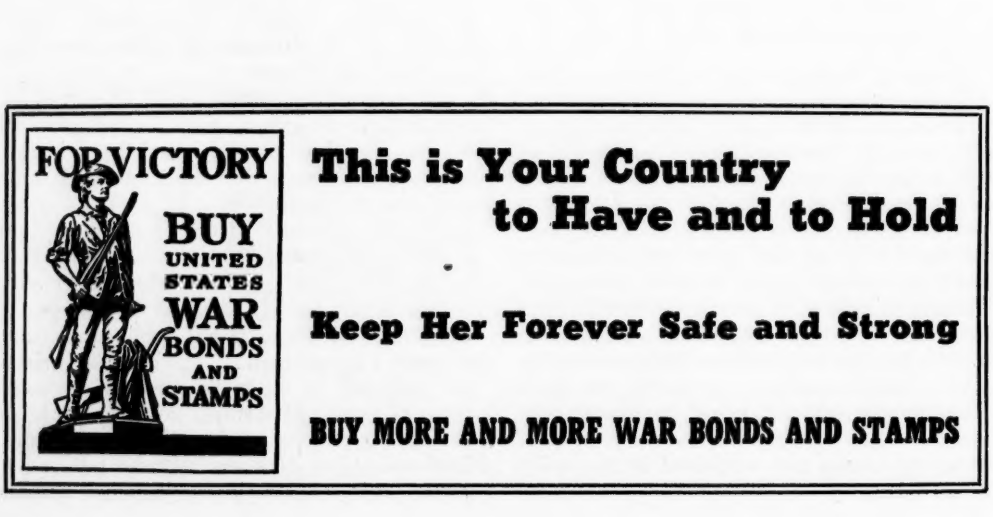
"In 1935, there was founded in Geneva, Switzerland, the International College of Surgeons, an organization totally scientific, without any commercial basis, whose principal purpose is to bring together surgeons from all parts of the world in a common labor for the progress of science, to guarantee professional ethics, to stimulate research and to award prizes of merit and conduct without

distinction of race, nationality or faith. The motto of the institution is *Pro Humanitatis* and its basic dogma is inspired in the sayings of Pasteur: 'Science has no country, because knowledge is the patrimony of humanity and is the flame that illuminates the world.'

"The International College of Surgeons from that date has celebrated congresses and reunions in America and elsewhere and its membership today is from all countries in the world. The presence here of the Minister of Public Health gives prestige to this conference which is held under the auspices of the Peruvian Chapter of the International College of Surgeons, in whose name I address these words to Professor Albee, Preident of the International College, who is doing a work of intellectual research in the Americas.

"It is a new era in the history of medicine, an era of cosmopolitanism that distinguishes it for the close intercourse of representatives of science in the world. Only when men undertaking the same beliefs, follow equal purposes, is it possible to develop between them a sincere spirit of union in spite of the bitter situation and the tragedy that is flowing across the world. It is our duty to stimulate ourselves because perhaps science one day will traverse all the frontiers and demand a creed of peace, of harmony and dignity in human relations.

"It seems an unavoidable law in all human relations that when it accomplishes its purposes and reaches the crest desired, we find all roads leading downward, even towards the abyss. Only science is free of this fatality, because it never follows limited or narrow interests; it does not recognize the end of its task or the limit of its scope of progress and perfection, because its ideals are beyond that which perishes and that which is human and is lost in the contemplation of the infinite."



Fourth International Assembly
In Conjunction with the Eighth International Assembly
of the United States Chapter

International College of Surgeons

WAR SURGERY AND REHABILITATION PROGRAM

WALDORF-ASTORIA HOTEL, NEW YORK, N. Y.
JUNE 14 to 16 (incl.), 1943

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BOOK REVIEWS

Urological Diseases of Pregnancy. By E. Granville Crabtree, M.D., Urologist to the Boston Lying-In Hospital. With a signed chapter by George C. Prather, M.D., Assistant Urologist to the Boston Lying-In Hospital. 472 p. 158 fig. (some col.). Little, Brown & Co., Boston, 1942.

THE author has collected in this work of nearly 500 pages a vast fund of knowledge, much of it not readily accessible, dealing with the problems of the kidney during pregnancy. He has thus produced a most timely and opportune contribution to the subject of urology, as influenced by pregnancy and childbirth. It is not generally recognized that the pregnant woman harbors or creates factors which have the effect of modifying the common diseases to a considerable degree, so that the usual therapy applicable to the non-pregnant woman may be of no value to the pregnant woman and, in fact, may even be harmful. Dr. Crabtree has emphasized this fact in considering the effects of pregnancy on the urinary system. This volume is intended to correlate the urologic diseases of pregnancy with general medicine and general urology. In this aim the author has succeeded remarkably well. He has presented detailed studies of the anatomic and physiologic changes which occur in pregnancy, and has interpreted them in terms of his 20 years of experience in this field. He shows that although pyelonephritis has been the dominant interest in the urology of pregnancy, it is but one of many conditions which must be considered, such as toxemia, diabetes and adrenal dysfunction, to mention a few of the most important. With few exceptions, he believes that all our knowledge to date points to the concept that changes in the urinary tract in pregnancy are physiologic and not pathologic, which seems plausible, since pregnancy is a physiologic and not a pathologic state, although the borderline of the pathologic is not far distant. He states that treatment by antiseptics does not change the original condition of the stagnant urine in the atonic channels, which is the primary etiologic factor in their occurrence. The highest percentage of cures with the newer antiseptics does not exceed 70 per cent. The effect of the endocrine changes which follow the implantation of the ovum within the walls of the uterus is stressed. Pregnancy, like the catamenia, constitutes a hormonal imbalance which may disturb the function of the urinary tract. In other words, a balanced system of forces is at work which change, as a whole, when any one factor is modified. While pressure of the gravid uterus is the greatest force acting to produce stasis in the urinary passages, the endocrines are the factors which produce atony of the channels, without which some pregnant women would show no variation from normal during pregnancy. The author lays emphasis on the work of Traut and his coworkers, who showed that in the first four months of pregnancy there is a distinct tendency to dilatation of all the smooth muscle organs. Obviously, this is necessary to permit the uterus to dilate. It also accounts for the atony of the lower bowel and the consequent constipation which is so common in pregnancy, and is largely responsible for the dilatation of the uterer and the renal pelvis. This knowledge of the hormone action on the body channels bids fair to change our long-held concept of urinary and intestinal obstruction being due solely to the pressure of the uterus. This interesting work presents so much that has been generally unrevealed, except to a few, that it must be accepted as a most valuable contribution to the literature of pregnancy and its effects on urinary function. It ends with an illuminating chapter on the renal contraindications to pregnancy, which every practitioner should carefully study. Needless to say, this reviewer commends it unreservedly.

A. L. Wolbarst

The Pathology of Trauma. By Alan Richards Moritz, M.D., Professor of Legal Medicine, Harvard Medical School; Pathologist, Massachusetts State Department of Public Safety. 386 p. 117 fig. Lea and Febiger, Philadelphia, 1942.

DURING the past 15 years a group of scholars in Boston has been making an intensive study of all phases of medico-legal problems. This small volume presents the pathology of trauma in a new form in the following chapters: "Mechanical Injuries;" "Trauma and Infection;" "Trauma and Tumors;" "Mechanical Injuries of the Cardiovascular System;" "Mechanical Injuries of the Respiratory System;" "Mechanical Injuries of the Alimentary Canal;" "Injuries of the Liver, Gall Bladder, Bile Passages, Pancreas and Spleen;" "Injuries of the Urogenital Tract;" "Injuries of the Central Nervous System," and "Injuries of the Skeleto-muscular System." Each chapter has an extensive bibliography.

The book reveals that the author has done a great deal of research work, which is presented in a compact manner. The photographs and microphotographs are taken from cases studied by him in Boston, Cleveland, Chicago, the Army Medical Museum, Edinburgh, Vienna and Berlin. The descriptions are based on thorough knowledge of pathologic anatomy, physiology, chemistry and experimental pathology.

The author and publisher are to be congratulated on producing a monogram at this time which is of value to everyone treating injuries.

W. J. Carson.

Alimentacion y Nutricion en Columbia. By Jorge Bejarano, M.D., Professor of Hygiene, University of Bogota; Honorary President, Pan-American Sanitary Office, Washington, D. C.; President, Tenth Pan-American Sanitary Congress. 170 p. Editorial Cromos, Bogota, 1941.

AS THE author states in the preface, this book has been written primarily for teachers, students and politicians who should be concerned with the problems of nutrition in their native land. The first chapters deal with the importance of nutrition in the physical and mental development of the individual and their influence on the race and the nation at large. The concluding chapters discuss the dietary habits of the various regions of Colombia, and stress that the solution of these nutritional problems depends above all on the correction of bad habits through education and such economic readjustments as to permit the proper feeding of the urban and rural workers.

Because the same nutritional problems affecting Colombia are found also throughout the countries of the Pacific Coast of South America, this book should be read by everyone in those countries responsible for the solution of these problems.

A. R. Larrain

Tratado de Patología Quirúrgica General. By Manuel Bastos Ansart, M.D. 879 p. 489 fig. 2nd Ed., Editorial Labor, S.A., Buenos Aires, 1941.

THE first part of this book deals with traumatisms in general and is divided into twelve subheadings (contusions, wounds, mechanical injuries, vascular traumas, injuries to the nerves, bones, articulation, the effects of gases in warfare, frostbite, etc.). This section is thoroughly prepared, with a consideration of the complications encountered in the various traumatisms. The second part deals with a discussion of infections, comprising important and timely subjects besides the recognized entities of granuloma inguinale, botryomycosis, etc. Surgical dystrophies are discussed in the third part, with a variety of considerations, such as the hereditary constitution of the individual, congenital malformations, dystrophies of all systems, etc. The last part deals with a discussion of tumors and neoplasms. The book contains a good bibliography with each chapter and is well illustrated. This is a splendid work for those who read Spanish.

M. THOREK.

Behind the Mask of Medicine. By Miles Atkinson, M.R.C.S., L.R.C.P. 348 pp. $3. Charles Scribner's Sons, New York, 1941.

THIS word map attempts to analyze and rehearse the more immediate problems of the medical profession and tenders some suggestions which, if not entire solutions, point paths of improvement. In an open, engaging style the author "talks matters over" with the reader rather than foists opinions. Criticisms of methods and procedures are those of broad understanding of his own specialty and betrays a rather diffuse understanding of others. For example, he states that "the blood count is the only laboratory procedure which is absolute." This, of course, is not true. The statement that "some small boys keep for preference their testicles high up out of the way where they do not develop properly" is also a fallacy.

Medicine is treated with recognition of its influence upon civilization and in its less spectacular realm of doctor and patient. It is held to be foremost among the social sciences. The floodlight of knowledge of the past century, uncovered faster than assimilated, has left the world of medicine bewildered.

The writer defends the important role of the family doctor and attacks specialization as overdone. He emphasizes that only upon the inclusive training acquired in general practice should a doctor venture into a particular field. Excesses in surgery are denounced as a crying evil, whether accredited to fads or to operators akin in ethical standards to ambulance chasing lawyers. Warning is sounded to hold sacred that "priceless quality" more valuable than science, more precious than art, that intangible urge, call of integrity, tradition or spirit that makes of a man the physician.

The plight of the hospitals, topheavy with system and expense, forced through necessity to practice not on the upgrade, is discussed. Many of the more colossal structures were erected in the flashing prosperity of the 20's on a scale of upkeep not adjustable to the strained purse of the 40's. The burden imposed by these institutions upon doctors unpaid for their labors is unfair. This chapter can be read with profit by hospital superintendents, trustees and managers.

Socialized medicine is presented in the light of its advantages, with an inference between the lines that the opposition of the profession is only, in revised form, the antagonism which this conservative body has traditionally held against the acceptance of the new. Doctors are boldly warned to formulate their own plan or to be ready to accept as the alternative that which the Government will otherwise devise.

The laity is not especially served well by some statements, but the informed physician who can evaluate matters germane to the practice of medicine may find in the book food for reflection and pointers to the "signs of the times."

J. C. B.

The Diagnosis and Treatment of Cardiovascular Disease. By William D. Stroud, M.D., Professor of Cardiology, University of Pennsylvania Graduate School of Medicine. Published in 2 volumes. F. A. Davis Co., Philadelphia, 1941.

SIR THOMAS LEWIS, in the Foreword of this book, stresses the excellence of the 56 leading contributors. The type arrangement, subject matter and illustrations are well chosen. At times there is an overlapping of subject matter because of the large number of contributors, but this does not detract from the excellence of the subject. The surgical side of cardiovascular disease is well covered. All of those interested in the practical side of cardiovascular disease will find these volumes well worth reading.

HERBERT SACHS.

American Jewish Physicians of Note. By Solomon R. Kagan, M.D. 129 fig. $5. Boston Medical Publishing Co., Boston, 1942.

THIS volume presents about 300 biographic sketches of noted American Jewish physicians, with emphasis on their medical scientific achievements. The sketches are given in a concise form, *multum in parvo,* are accurate, and instructive. There is also included in this volume an Appendix—(Medical Chronology), which presents a great number of original scientific items of progress in American medicine for the past century. The material is arranged in chronologic order. It is well written, and contains vast new material of medico-historic interest. The author is well known for his previous numerous original contributions to medical history. As a biographer and pupil of the late Fielding H. Garrison, he follows his steps. The only criticism is that there is a disproportion in the biographies. Some of them are very brief, while others are very long, covering many poses—for instance, the biographies of Dr. Leo Loeb, Dr. Howard Lilienthal, Dr. Milton J. Rosenau, and Dr. Ernest Spiegel.

In general, the book is a welcome contribution to American medical history. The medical profession owes a debt to the author for his industrious work in the field of the history of medicine.

B. W.

Manual of Standard Practice of Plastic and Maxillofacial Surgery. Prepared and Edited by the Subcommittee on Plastic and Maxillofacial Surgery of the Committee on Surgery of the Division of Medical Sciences of the National Research Council, and Representatives of the Medical Department, U. S. Army. 432 p., 259 fig. $5. W. B. Saunders Co., Philadelphia and London, 1942.

SINCE this work is primarily presented to meet the exigencies of the time, the treatment of malignancies has not been included. The authors are specialists and authorities in their respective branches. This book is one of a series of the military surgical manuals; others are to appear and promise in timeliness, authoritative dissemination of knowledge, and worthwhileness. This volume is the first of a series developed under the auspices of the Division of Medical Sciences of the National Research Council to furnish the medical departments of the Army and Navy with concise presentations of necessary information in military surgery. Succeeding volumes will cover the subjects of ophthalmology and otolaryngology; abdominal and genito-urinary injuries, orthopedic subjects, etc. The section on reconstructive surgery by Ferris Smith is excellent. Equally good are the sections devoted to the subjects of maxillary surgery by Brigadier General Leigh C. Fairbank and colleagues. Dr. P. C. Lowery has contributed a good chapter on maxillofacial prosthesis which describes the artificial replacement of parts destroyed by injuries to the face and jaw. The material is divided into four sections and comprises fifteen chapters. Section I deals with reconstructive surgery, Section II with maxillary surgery, Section III with maxillofacial prosthesis, and the last section discusses anesthetic technic. The work is notoriously free from padding and only essentials are embodied. Not only those who are engaged in war surgery, but the general surgeon as well, will find this work valuable and instructive. The index is thorough and the paper and binding of high grade. This work can be highly recommended.

K.

Advances in Pediatrics. By Adolph G. DeSanctis, M.D., L. Emmett Holt, M.D., and Frederick F. Tisdall, M.D. 291 p. Interscience Publishers, Inc., 1942.

THIS is an attractive, well printed and finely bound volume. Its purpose is to present a review of some of the latest advances in pediatrics during the past two years. The ten subjects which constitute this work were chosen through the medium of questionnaires by some of the leading pediatricians of the United States as being the most important advances during this time.

This work is a fine presentation of the subjects involved. The section dealing with "Toxoplasmosis," for example, is most complete, well written and should serve to stimulate clinicians to be on the alert for this entity in its various forms as they occur at various ages. The section on "Electroencephalography" wisely points out the pitfalls, as well as the advantages, of this laboratory procedure in differentiating localized organic pathology from pure psychiatric disturbances. Persistent ductus arteriosus is discussed from the standpoint of its dangers and the indications for its ligation. Convincing proof of the beneficial effects of the latter is presented in the form of records of a number of operated cases. The section dealing with "Vitamin K in Hemorrhage in the Newborn Period" stresses hypothrombinemia as the most common cause of spontaneous bleeding at this age, provided alteration in the vascular walls by such means as trauma, asphyxia, infection, faulty cord-tieing, etc., has been excluded as the primary cause. The author emphasizes that under normal conditions vitamin K is best utilized as it occurs in its natural source through bacterial synthesis in the alimentary tract. A detailed review of "Virus Diseases" and "Chemotherapy in Diseases of Infancy and Childhood" is presented. Sections dealing with the "Premature Infant," Endocrinology," and "Tuberculosis" are included, all of which are well presented and practically up to date. Short abstracts of other advances in pediatrics, covering nine subjects are also included. Extensive bibliographies accompany each of the ten monographs.

It is not clear to this reviewer whether this volume has served the purpose for which it was intended, as stated in the Preface. It is questionable whether the reader can hope to be brought abreast of the recent pediatric advances during the past two years through this medium of ten selected subjects. For the busy, average physician who wishes to keep abreast of the pediatric literature, it would take more than ten subjects, preferably in abstract form, such as the tenth section of this volume, to fill the gap between knowledge available in pediatric textbooks and systems, and that presented in the latest pediatric journals. However, *Advances in Pediatrics* is a valuable asset in any physician's library.

L. J. HALPERN.